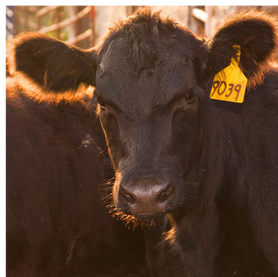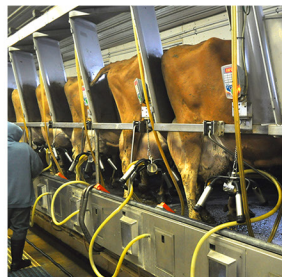# Agriculture in Indiana Counties

Exploring the Industry's Impact at the Local Level

Research conducted by
Indiana Business Research Center, Kelley School of Business, Indiana University

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Agriculture in Indiana Counties

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Executive Summary

I t is common knowledge that Indiana is an agricultural powerhouse. The state is well known as a leading producer of corn, soybeans, hogs and pigs, and certain types of poultry. Given that picturesque views of productive cropland and pastures are so commonplace around the state, it might be easy to think that agricultural production is pretty much the same no matter where you find yourself in Indiana. While certain commodities are widespread, to be sure, there is also quite a bit of geographic variation in Indiana agriculture.

Northwestern Indiana leads the way in corn production by a long shot, for instance, while many top soybean-producing counties are in the northeastern quarter of the state. There are two distinct hotspots for hog and pig production in the state, while southwestern Indiana is the epicenter of the Hoosier poultry industry. When we expand the definition of agriculture to include closely related processing and manufacturing activities, nearly every county in the state makes a significant contribution to Indiana agriculture in one way or another.

This study aims to provide comprehensive estimates of the economic effects of agriculture in each Indiana county. The analysis offers estimates of the total value of sales, gross domestic product (GDP), and employment that is directly linked to agriculture in each community, as well as the economic ripple effects that these activities trigger in other industries. The report begins with a statewide overview before assessing the role that agriculture as a whole plays in each county. The analysis then digs deeper into the data to measure the local economic contributions of 10 specific agricultural industries.

Key Findings

- Indiana agriculture industries combined to employ more than 107,600 workers in 2012. Add in the ripple effects of the industry—which refers to the supply chain purchases and the household spending of workers—and the total employment footprint of agriculture in the state climbs to 190,650 jobs. This industry also generated an estimated $15.4 billion in value added, which equates to roughly 5 percent of the state's total GDP.
- As odd as it may sound, some of Indiana's more urbanized counties make the largest contributions to this industry because a lot of agriculture-related processing and manufacturing activities are concentrated in larger communities. Driven primarily by grain and soybean processing, Marion County had the state's largest total agricultural GDP effect in 2012 at $1.4 billion. Madison, Allen and Tippecanoe counties each had total GDP effects above $400 million.
- Carroll County stands out when we view the agriculture industry as a share of the local economy. Based in large part on its position as a leader in hog production and processing, agriculture's total employment effect

accounted for 40 percent of all jobs in Carroll County in 2012. The combined effects of agriculture represented a little more than 20 percent of all jobs in Randolph, Benton, Newton, Tipton and Daviess counties.
- Jasper County led the state in the total GDP effects of corn production, while Allen County claimed the top spot for soybean production. Dubois County ranked first on the list in both poultry and egg production and animal processing, while White County set the pace in hog and pig production. Madison County had the state's largest total GDP impact in the food manufacturing industry.
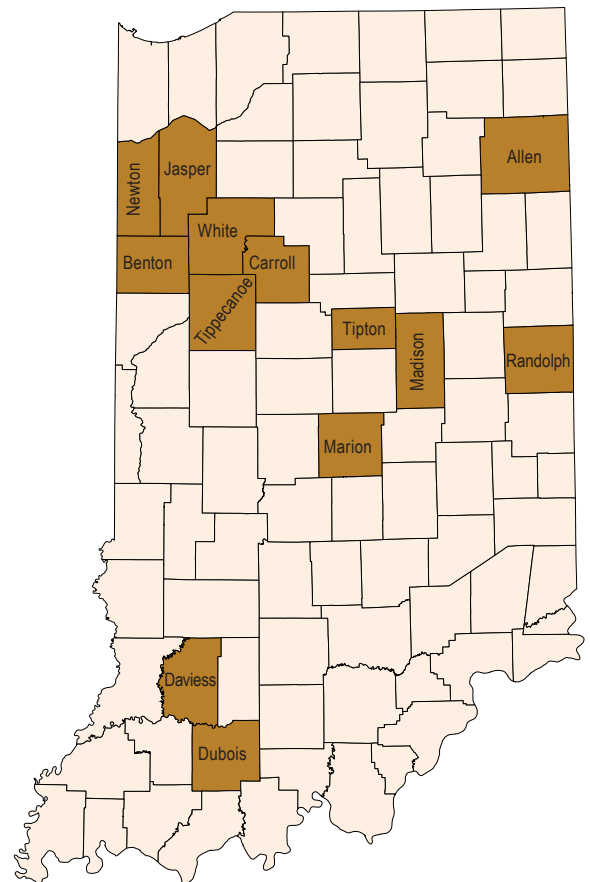
Defining Agriculture and Measuring Its Economic Effects

The first step in measuring the economic effects of Indiana agriculture is to identify the types of activities that define the industry. On first thought, the answer seems obvious: the agriculture industry should cover all production generated on Hoosier farms. This definition does not quite cut it, however, since the state is also home to a variety of closely related processing and manufacturing establishments that add tremendous value to Indiana's agricultural production (i.e., grain milling, vegetable canning, animal processing, etc.). For the purposes of this study, the concept of agriculture includes both production on the farm and agriculture-related processing and manufacturing activities.[1]

In Indiana, both the production and processing aspects of agriculture are big business. The most recent U.S. Department of Agriculture (USDA) Census of Agriculture shows Indiana to be a top 10 agriculture-producing state, with $11.2 billion in sales in 2012 (see **Table 1**). Three commodities—corn, soybeans, and hogs and pigs—account for nearly three-quarters of the state's total agricultural sales. Despite a severe drought year, corn production led the way with roughly $4.1 billion in sales in 2012, followed by soybeans at a value of nearly $3 billion and hogs and pigs at $1.3 billion. Indiana ranked among the top five states in sales for each of these commodities. Poultry and egg production was the only other commodity category in the state with more than $1 billion in sales in 2012. The nearly $1.2 billion in sales in this industry ranked as 13th-best among states.

In terms of the processing industries considered in this analysis, Indiana's agricultural manufacturers tallied sales worth $19.7 billion in 2012, according to data from the IMPLAN economic modeling software. The state's animal and poultry processors led the way in sales with a total of nearly $3.6 billion, followed by wet corn milling operations ($3.2 billion), milk and butter manufacturers ($2.4 billion), fats and oils refiners ($1.8 billion) and fruit and vegetable canners ($1.7 billion).

In the terminology of input-output analysis, the sales figures described above are considered the "direct effects" of agriculture. The impact of agriculture does not stop there, however. Instead, the effects of agricultural activities then cascade throughout the state's economy in the form of supply chain purchases and the household spending of agricultural workers.

The typical Hoosier soybean farmer, for instance, buys inputs ranging from pesticides and fertilizers to accounting and transportation services from other Indiana businesses. Employees at an Indiana vegetable canning facility, meanwhile, spend a large share of their earnings locally on goods and services, such as housing, health care, food and entertainment. These are just a few examples of the so-called economic "ripple effects" of agriculture described throughout this report.

All told, Indiana's agricultural producers and processors generated nearly $33.5 billion in direct sales in 2012 (see **Table 2**). This activity triggered ripple effects totaling an estimated $13.3 billion in additional sales in other industries around the state, bringing Indiana agriculture's total sales footprint to nearly $46.8 billion in 2012.

A useful way to interpret these results is to look at the multiplier. The

Table 1: Value of Agricultural Production, Top 10 States, 2012

State	Value of Sales ($ billion)
California	42.6
Iowa	30.8
Texas	25.4
Nebraska	23.1
Minnesota	21.3
Kansas	18.5
Illinois	17.2
North Carolina	12.6
Wisconsin	11.7
Indiana	11.2

Source: USDA, 2012 Census of Agriculture

Table 2: The Economic Contributions of Agriculture to Indiana's Economy, 2012

	Direct Effects	Ripple Effects	Total	Multiplier
Total Sales ($ million)	33,463	13,312	46,775	1.40
Value Added ($ million)	8,227	7,168	15,395	1.88
Employment	107,570	83,080	190,650	1.80

Source: IBRC, using data from the USDA and the IMPLAN economic modeling software

ratio of direct sales to total sales yields a multiplier of 1.40, meaning that every dollar of sales generated by the state's agricultural establishments stimulates an estimated $0.40 in additional economic activity in Indiana.[2]

While total sales can provide useful, easily understood information, the "value added" measure is a more meaningful indicator of agriculture's contribution to Indiana's economy. Value added, which is analogous to the official GDP figures released at the national and state level, is essentially the difference between a company's or an industry's total sales and the cost of its production inputs.

Indiana agriculture produced an estimated $8.2 billion in GDP in 2012. Add in the ripple effects, and the industry was responsible for a total of $15.4 billion in value added in the state. In 2012, the state's total value added was roughly $306 billion, which means that the combined effects of agriculture accounted for roughly 5 percent of Indiana's total GDP in that year.

In terms of employment, more than 107,600 jobs in Indiana were tied directly to agriculture, while the industry's ripple effects led to an estimated 83,100 additional jobs around the state. The multiplier of 1.8 suggests that every 10 jobs directly related to Indiana agriculture supports another 8 jobs in other industries.

As **Table 3** shows, corn and other grain farming has the greatest total employment footprint of any specific agriculture industry with an estimated 49,910 jobs in 2012, followed by soybean farming (26,750 jobs), hog and pig production (16,920), and non-poultry animal processing (10,010). Among these larger industries, wet corn milling had the largest employment multiplier

at 7.1, meaning that each direct job supports roughly six more jobs in other industries. Other industries with large employment multipliers include fats and oils refining, ethanol and biodiesel production, and poultry and egg production. In general, processing and manufacturing industries tend to have larger multipliers than agriculture production activities because they tend to engage longer supply chains

while generating their products with relatively few employees.

Notes

1. Although not strictly an agricultural activity, this analysis includes logging and related industries in its definition of agriculture. See the appendix for the full list of industries included in this study.
2. For a detailed analysis of the effects of agriculture at the state and regional levels, read *Beyond the Farm: A State and Regional Report on the Economic Contribution of Farms, Forests and Related Industries* at www.ibrc.indiana.edu/studies/BeyondTheFarm.pdf.

Table 3: Agriculture's Contribution to Indiana Employment, Top 15 Industries, 2012

Industry	Direct Effects	Ripple Effects	Total	Multiplier
Corn, wheat and other grain farming	34,940	14,970	49,910	1.4
Soybean and other oilseed farming	15,600	11,150	26,750	1.7
Hog and Pig production	14,040	2,880	16,920	1.2
Animal (except poultry) slaughtering, rendering, and processing	6,310	3,700	10,010	1.6
Support activities for agriculture and forestry	7,400	2,120	9,520	1.3
Wet corn milling	1,320	8,070	9,390	7.1
Fruit and vegetable canning, pickling, and drying	3,160	4,450	7,610	2.4
Poultry processing	3,290	3,640	6,930	2.1
Fluid milk and butter manufacturing	1,760	4,900	6,660	3.8
Poultry and egg production	950	3,620	4,570	4.8
All other food manufacturing	2,100	2,350	4,450	2.1
Ethanol and biodiesel production	680	2,950	3,630	5.3
Dairy cattle and milk production	1,910	1,470	3,380	1.8
Veneer and plywood manufacturing	1,860	1,270	3,130	1.7
Sawmills and wood preservation	1,700	1,300	3,000	1.8
All other industries	10,550	14,240	24,790	2.3
Total	107,570	83,080	190,650	1.8

Note: Since data are more reliable at the state level, this table provides greater industry detail than is available for the county-level results presented later.
Source: IBRC, using data from the USDA and the IMPLAN economic modeling software

Agriculture's Impact in Indiana Counties

Whether it is grain growers in the northern part of the state, poultry producers down south or food manufacturers in the larger cities, nearly all parts of the state play an important role in Indiana's agriculture economy. In terms of total GDP impact (i.e., direct effects and ripple effects), Marion County led the way in 2012 by generating a combined total of roughly $1.4 billion in value added (see **Figure 1**). Madison County was a distant second with an estimated $627 million in total GDP impact across all agricultural industries, while Allen County ($413 million in total value-added effect), Tippecanoe County ($410 million) and Dubois County ($362 million) round out the top five.

It may seem surprising that some of the state's larger urban counties also provide the greatest contributions to Indiana's agricultural GDP, but the more populous areas have a couple of factors in their favor. First, a sizable share of agricultural processing and food manufacturing activities are concentrated in larger counties. Marion County, for instance, accounts for roughly 33 percent of the state's total value-added effects in the grain and soybean processing industry. Meanwhile, Madison County—which is home to tomato products manufacturer Red Gold—is responsible for nearly 15 percent of Indiana's total GDP impact in the food manufacturing industry. Marion and Allen counties combined to claim another 18 percent of the state's total value added in this industry in 2012.

As **Table 4** shows, processing and manufacturing industries played the leading role in nearly every one of the state's top 15 agricultural counties. Of this group, only Jasper County—which was Indiana's top corn producer in 2012—had the majority of its total value-added impact claimed by production industries. By contrast, taking the remaining 77 Indiana counties as a group, production industries accounted for slightly more than two-thirds of the $6 billion in total GDP impact generated in these communities. It is important to note that severe drought conditions led to abnormally low corn production in Indiana in 2012. In a typical year, it is possible that some of the state's top corn-producing counties would rank higher on this list.

Figure 1: Indiana Agriculture's Total GDP Effects by County, 2012

Legend:
- $400 million or more (4)
- $200 million to $399 million (14)
- $100 million to $199 million (22)
- $40 million to $99 million (31)
- Less than $40 million (21)

Source: IBRC, using data from the USDA and the IMPLAN economic modeling software

Indiana's large counties also lead the way because they tend to be home to a larger and more diverse industry base, which translates to larger multiplier effects. A comparison of Allen and Clinton counties helps to demonstrate the point. These counties were the state's top two soybean producers in 2012. Allen County is also Indiana's third-largest county by population, while Clinton County ranks 50th. According to the IMPLAN model, the typical soybean grower in Allen County will buy 40 percent of their production inputs from other establishments in the county, but a Clinton County grower will source only 21 percent of their inputs locally. Allen County is also likely to retain a larger share of the household spending of its residents. Due to these factors, Allen County can boast a value-added multiplier of 1.8 for this industry compared to 1.3 for Clinton County.

Figure 2 highlights the total GDP effects of production industries only for each county. As mentioned earlier, Jasper County was Indiana's top corn producer in 2012, and this county posted the state's largest production-related GDP impact at an estimated $169 million. Allen County—the state's top soybean producer in 2012—had the second-greatest total GDP impact estimate for production industries at $162 million, followed by Elkhart ($147 million), White ($137 million) and LaPorte ($130 million) counties.

Table 4: Total GDP Impact by Industry Type, Indiana's Top 15 Counties, 2012

County	Production Industries ($ million)	Processing and Manufacturing Industries ($ million)	Total ($ million)
Marion	41	1,360	1,401
Madison	90	537	627
Allen	162	251	413
Tippecanoe	99	310	410
Dubois	106	255	362
Lake	57	286	343
Kosciusko	116	201	317
Elkhart	147	160	307
Daviess	81	217	298
Adams	129	153	282
Clinton	120	143	262
Vanderburgh	23	238	261
Jasper	169	89	257
Carroll	120	124	244
Cass	70	160	230
All other counties	4,083	2,215	6,299
Total	5,612	6,699	12,311

Source: IBRC, using data from the USDA and the IMPLAN economic modeling software

Figure 2: Total GDP Effects of Agricultural Production Industries by County, 2012
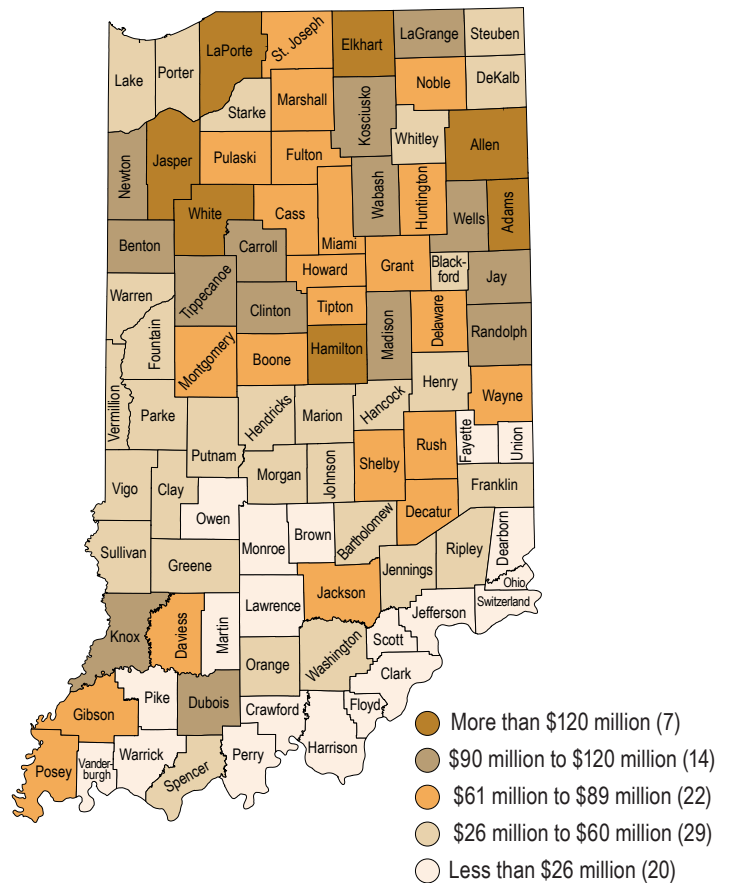
More than $120 million (7)
$90 million to $120 million (14)
$61 million to $89 million (22)
$26 million to $60 million (29)
Less than $26 million (20)

Source: IBRC, using data from the USDA and the IMPLAN economic modeling software

Agriculture's Employment Effects

As with GDP effects, Marion County had the state's largest total employment impact in 2012 with an estimated 10,250 jobs in the county either directly related to an agricultural industry or supported through the industry's ripple effects. Both Madison and Allen counties had estimated total employment impacts of more than 5,000 jobs, while Elkhart and Carroll counties complete the top five with both at more than 4,000 jobs supported by agriculture (see **Figure 3**).

These raw employment totals are useful because they show how many Hoosiers depend on the agricultural activities in each county, but they do not give us a sense of how important agriculture is to the local economy in each community. Marion County, for instance, has the largest jobs tally by a long shot, but this total employment impact accounted for only 1.6 percent of all jobs in the county in 2012—the sixth-smallest share of total employment in the state.

Among other counties with the most agriculture-supported jobs, the industry also plays a relatively small role in Allen (2.3 percent of all jobs) and Elkhart (3.5 percent) counties. Agriculture is a much bigger player in Madison County, accounting for an estimated 10.4 percent of all jobs in 2012. Statewide, the total employment

These raw employment totals are useful because they show how many Hoosiers depend on the agricultural activities in each county.

Figure 3: Total Agricultural Employment Effects by County, 2012
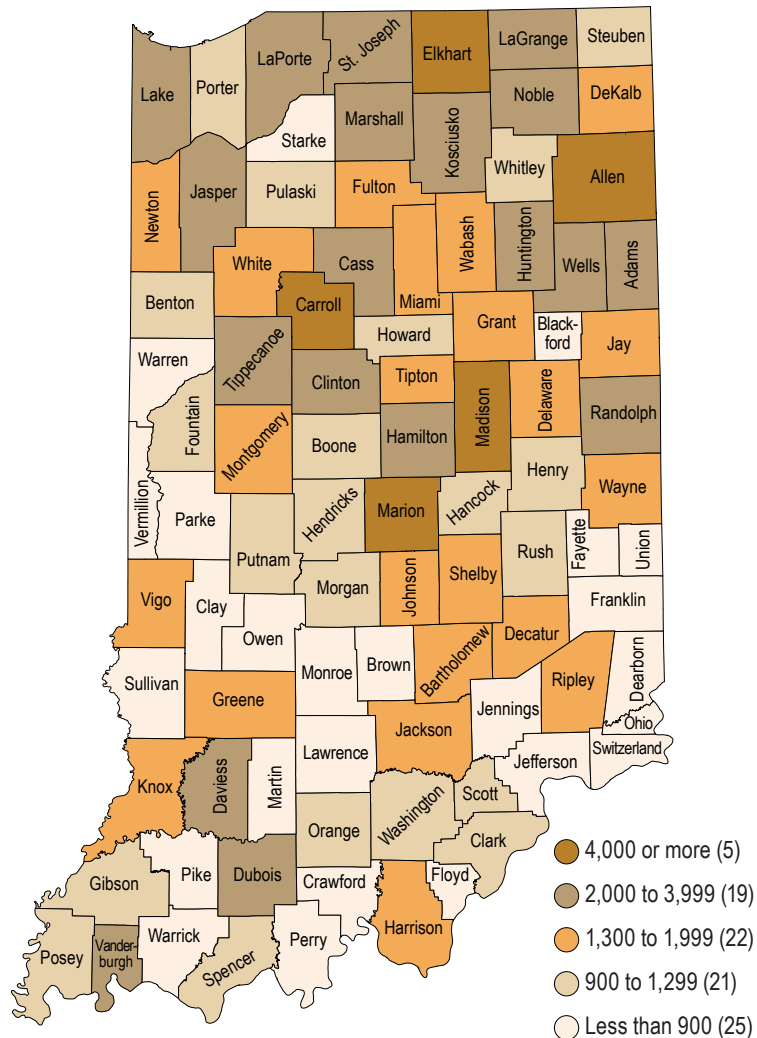
Source: IBRC, using data from the USDA and the IMPLAN economic modeling software

impact of agriculture represented 5.3 percent of all jobs in Indiana.

Agriculture plays a far more critical role in many of the smaller or midsized counties around the state. In Carroll County, the estimated 4,090 jobs supported by agriculture in this locale accounted for 40 percent of all jobs in the county in 2012. Animal processing activities in Carroll County—led by the Indiana Packers Corporation headquartered in Delphi—account for the majority of agriculture-supported jobs in this community, but grain farming and hog and pig production also have a significant employment impact in the area.

Randolph County—which has the state's largest employment impact in the hog and pig production industry—leads a collection of seven counties where agriculture supports between 19 percent and 24 percent of total employment (see **Figure 4**). Grain farming propelled Benton, Newton, Tipton and Warren counties into this group, while animal processing is the key industry in Daviess and Cass counties.

> *Agriculture plays a far more critical role in many of the smaller or midsized counties around the state.*

Figure 4: Agriculture Employment Effects as a Share of Total Employment by County, 2012
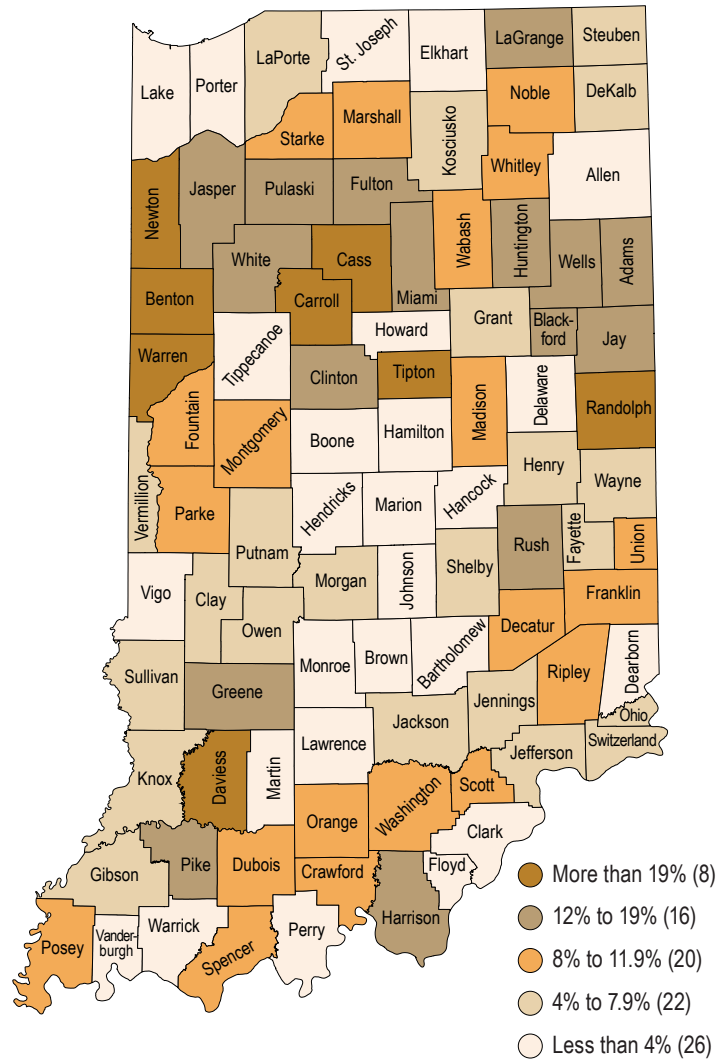
Source: IBRC, using data from the USDA and the IMPLAN economic modeling software

Economic Contributions by Industry

When measured by the value of sales, corn, wheat and other grain production was the largest agriculture industry in more than one-third of Indiana counties in 2012 (see **Figure 5**). While these 32 counties are sprinkled all over the map, the northwestern part of the state is Indiana's most productive region for grain output as Jasper, White, LaPorte, Clinton and Benton counties were the only Indiana communities to post sales figures above the $100 million mark in 2012.

In all, 50 counties—including most of the state's more urban areas—are led by agricultural processing or food manufacturing industries.

Given that Indiana ranked fourth among states in soybean production in 2012 with nearly $3 billion in sales, one might expect that this industry would also dominate in many counties. Instead, soybean production tops the list in only a handful of communities.

In 2012, 50 Indiana counties had a value of soybean production between $30 million and $72 million.

Rather than have a couple of dominant regions, however, the key to Indiana's success in this industry is that soybean production is so widespread. In 2012, 50 Indiana counties had a value of soybean production between $30 million and $72 million.

Over the next few pages, we will dig deeper into the county-level contributions of each major agricultural sector by looking at the direct impacts of each industry, as well as the ripple effects. The key measures in assessing these contributions will be GDP effects (i.e., the value of sales minus the cost of production inputs) and employment.

Figure 5: Agriculture Industry with the Greatest Value of Sales in Each County, 2012
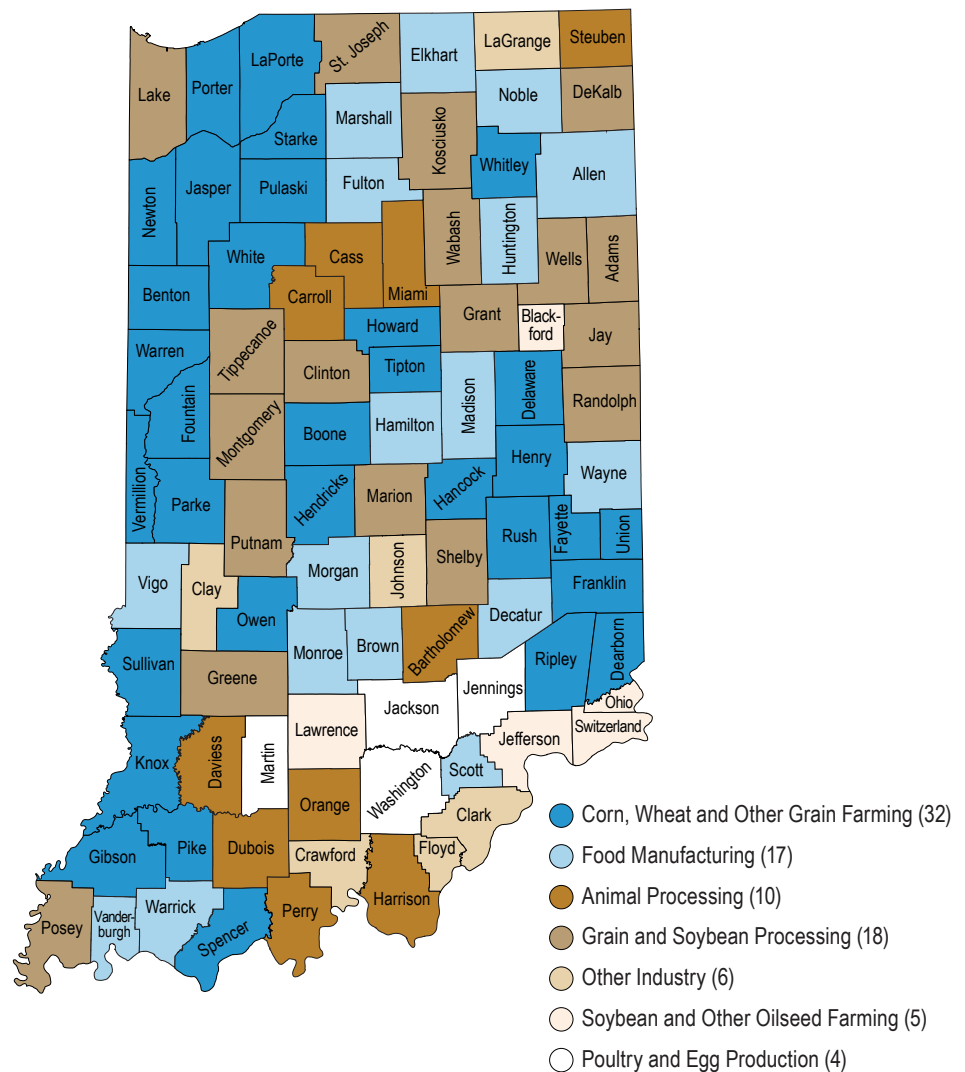
Corn, Wheat and Other Grain Farming (32)
Food Manufacturing (17)
Animal Processing (10)
Grain and Soybean Processing (18)
Other Industry (6)
Soybean and Other Oilseed Farming (5)
Poultry and Egg Production (4)

Source: IBRC, using data from the USDA and the IMPLAN economic modeling software

Corn, Wheat and Other Grain Farming

Most of Indiana's top corn, wheat and other grain producing counties are found in the Northwest quarter of the state (see **Figure 6**). Jasper County had the state's largest total GDP impact in 2012 at an estimated $57.7 million, followed by LaPorte County at nearly $55 million. Benton, White and Carroll counties fill out the top five for this measure (see **Table 5**).

Among these top counties, seventh-ranked Allen County has the largest value-added multiplier at 2.25, meaning every dollar of GDP directly related to the grains industry generates an additional $1.25 in economic activity elsewhere in Allen County.

In terms of employment, Allen County has the largest total impact at an estimated 1,240 jobs, followed by LaPorte County at 1,190 jobs. Note that many counties with large direct employment effects relative to their direct GDP estimates are likely to have many part-time or other low-wage workers in this industry. In Allen County, for instance, the average annual income per worker in the grains industry was a little more than $13,000 in 2012 according to IMPLAN, while the average grain worker in Jasper County had an annual income of $55,000.

Figure 6: Total GDP Effect of Corn, Wheat and Other Grain Farming by County, 2012

- $33 million or more (11)
- $25 million to $32.9 million (16)
- $18 million to $24.9 million (16)
- $10 million to $17.9 million (18)
- Less than $10 million (31)
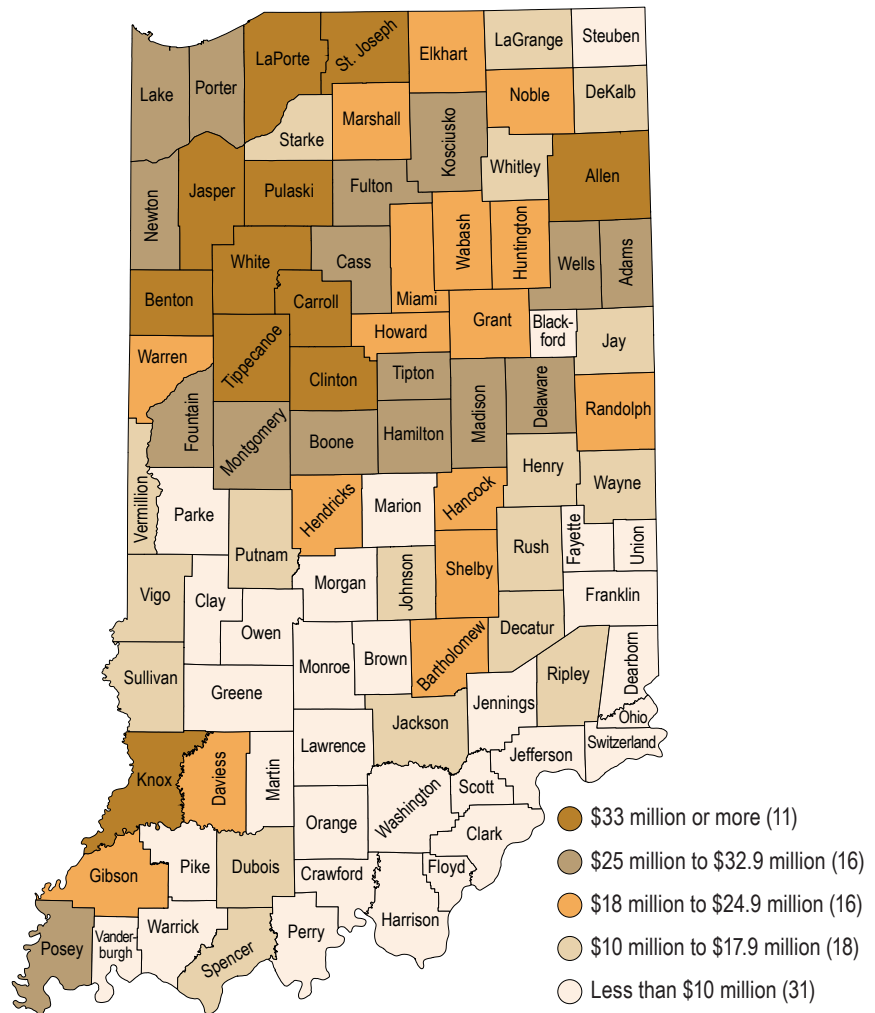
Source: IBRC, using data from the USDA and the IMPLAN economic modeling software

Table 5: Economic Effects of Corn, Wheat and Other Grain Farming, Top 10 Counties, 2012

County	GDP Effects ($ million)				Employment Effects			
	Direct Effects	Ripple Effects	Total	Multiplier	Direct Effects	Ripple Effects	Total	Multiplier
Jasper	35.0	22.7	57.7	1.65	560	280	840	1.50
LaPorte	26.3	28.5	54.8	2.08	860	330	1,190	1.38
Benton	24.3	16.7	41.0	1.69	410	150	560	1.37
White	26.6	12.7	39.3	1.48	390	140	530	1.36
Carroll	20.1	16.5	36.6	1.82	330	220	550	1.67
St. Joseph	16.4	19.8	36.2	2.20	650	220	870	1.34
Allen	16.1	20.0	36.1	2.25	1,010	230	1,240	1.23
Tippecanoe	16.9	19.1	36.1	2.13	570	220	790	1.39
Clinton	24.6	11.1	35.8	1.45	500	120	620	1.24
Knox	20.6	13.7	34.4	1.67	390	170	560	1.44

Source: IBRC, using data from the USDA and the IMPLAN economic modeling software

Soybean and Other Oilseed Farming

While Northwestern Indiana is the dominant region in the state for corn production, the top five counties in the total GDP impact of soybean farming are found in the northeast quarter of the state (see **Figure 7**). Allen County holds the top spot with nearly $53 million in total value added, followed by neighboring Wells County and Madison County with an estimated $41 million GDP impact apiece (see **Table 6**).

These Northeast Indiana counties owe their place at the top of this list more to their slightly larger GDP multipliers than to any region-wide dominance in soybean production. Allen County features the largest value-added multiplier at 1.63, while the other leading counties in the area, with the exception of Wells County, have multipliers in the mid-1.4 range. Look only at the direct GDP effects, however, and there is little separation among most counties in the top 10.

Not surprisingly, Allen County has the greatest total employment impact with an estimated 870 jobs in the county supported by this industry. Madison and Adams counties are the only other communities with employment effects above the 500 mark.

Figure 7: Total GDP Effect of Soybean and Other Oilseed Farming by County, 2012

- $35 million or more (10)
- $27 million to $34.9 million (16)
- $20 million to $26.9 million (18)
- $10 million to $19.9 million (27)
- Less than $10 million (21)
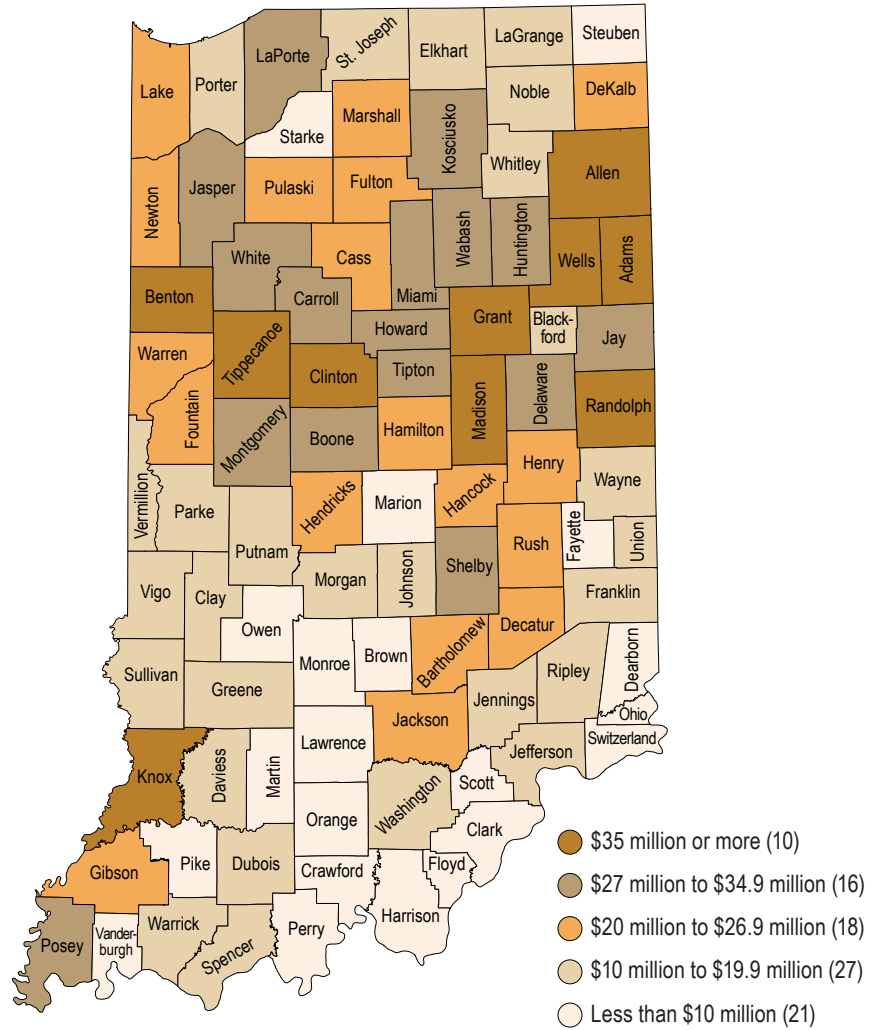
Source: IBRC, using data from the USDA and the IMPLAN economic modeling software

Table 6: Economic Effects of Soybean and Other Oilseed Farming, Top 10 Counties, 2012

County	GDP Effects ($ million)				Employment Effects			
	Direct Effects	Ripple Effects	Total	Multiplier	Direct Effects	Ripple Effects	Total	Multiplier
Allen	32.3	20.3	52.6	1.63	600	270	870	1.45
Wells	29.9	11.1	41.0	1.37	320	160	480	1.50
Madison	28.3	12.7	41.0	1.45	350	190	540	1.54
Grant	28.1	12.0	40.1	1.43	220	170	390	1.77
Adams	26.4	12.0	38.4	1.46	340	170	510	1.50
Knox	28.2	10.2	38.3	1.36	160	140	300	1.88
Clinton	30.5	7.4	37.9	1.24	180	100	280	1.56
Benton	27.6	8.8	36.4	1.32	140	100	240	1.71
Randolph	28.6	7.7	36.4	1.27	290	100	390	1.34
Tippecanoe	22.7	12.4	35.1	1.54	230	160	390	1.70

Source: IBRC, using data from the USDA and the IMPLAN economic modeling software

Hog and Pig Production

Neighboring White and Carroll counties had the state's largest total GDP effects in hog and pig production in 2012. Add in the large processors in Carroll County, and these two communities can be described as the epicenter of Indiana's pork industry. Clinton County can also boast being one of only six counties with a total GDP impact of more than $30 million in 2012. Randolph and Jay counties in east-central Indiana form another high-output region in this industry, while Wabash County is also among the state's leaders (see **Figure 8**).

White County has the largest GDP multiplier of the counties listed in **Table 7**, although there is little practical difference among these leading counties for this measure. Due to its comparatively short supply chain, this industry tends to have a relatively small multiplier effect.

Hog and pig production translates into more jobs in Randolph, Wabash and Jay counties, yet as with the grain industry, the larger employment effects may simply reflect the presence of more part-time jobs as the industry's average annual income in these counties is lower than for some of the other leaders.

Figure 8: Total GDP Effect of Hog and Pig Production by County, 2012

Legend:
- $21 million or more (11)
- $10 million to $20.9 million (14)
- $7 million to $9.9 million (17)
- $3 million to $6.9 million (17)
- Less than $3 million (33)
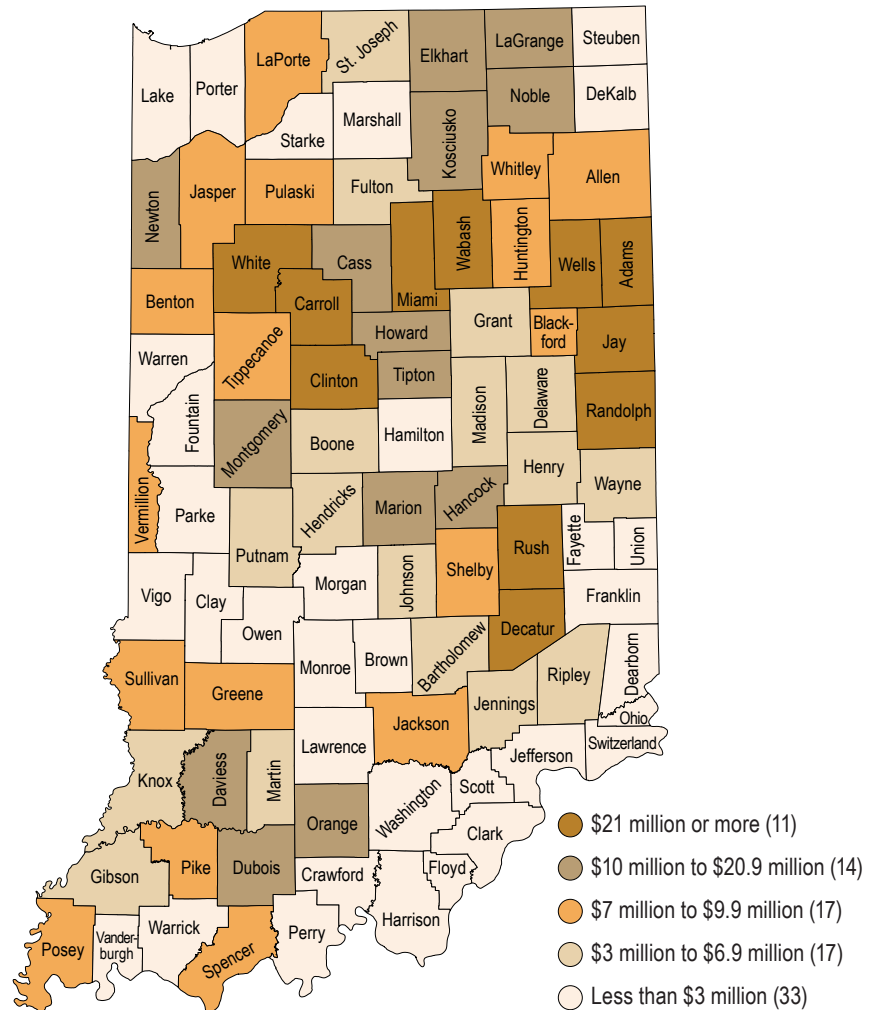
Source: IBRC, using data from the USDA and the IMPLAN economic modeling software

Table 7: Economic Effects of Hog and Pig Production, Top 10 Counties, 2012

County	GDP Effects ($ million)				Employment Effects			
	Direct Effects	Ripple Effects	Total	Multiplier	Direct Effects	Ripple Effects	Total	Multiplier
White	46.6	8.3	54.9	1.18	410	90	500	1.22
Carroll	41.8	6.4	48.2	1.15	410	100	510	1.24
Randolph	40.6	5.1	45.7	1.13	810	70	880	1.09
Wabash	29.1	4.8	33.9	1.17	530	70	600	1.13
Jay	30.5	2.8	33.3	1.09	510	40	550	1.08
Clinton	28.3	4.6	32.9	1.16	340	50	390	1.15
Decatur	25.6	4.2	29.7	1.16	280	40	320	1.14
Rush	26.6	3.0	29.6	1.11	300	40	340	1.13
Adams	21.1	3.4	24.5	1.16	540	50	590	1.09
Miami	21.3	2.8	24.1	1.13	370	30	400	1.08

Source: IBRC, using data from the USDA and the IMPLAN economic modeling software

Poultry and Egg Production

Dubois and Daviess counties are to the state's poultry and egg industry what Carroll and White counties are to Indiana's pork. As **Figure 9** illustrates, Dubois County truly stands out in this industry with a total GDP impact ($63.2 million) that is more than twice as large as runner-up Daviess County ($28.6 million). These two counties also lead the state in poultry processing. Total value-added effects for poultry production in Elkhart, Kosciusko and Jay counties followed closely behind Daviess in 2012.

Dubois and Daviess counties owe some of their position at the top of this list to large multiplier effects, which indicates that there is a sizable supplier base in the local area. White and LaGrange counties are the only other communities on this list with GDP multipliers approaching the 2.0 mark (see **Table 8**).

Poultry and egg production was responsible for an estimated 430 jobs in Dubois County in 2012, with roughly three-quarters of this number supported through the industry's ripple effects. Such a large employment multiplier suggests that the local producers generate significant output with relatively few employees, while also engaging a longer supply chain.

Figure 9: Total GDP Effect of Poultry and Egg Production by County, 2012

- $63.2 million (1)
- $20 million to $28.9 million (6)
- $5 million to $14.9 million (14)
- $100,000 to $4.9 million (21)
- $0 (50)
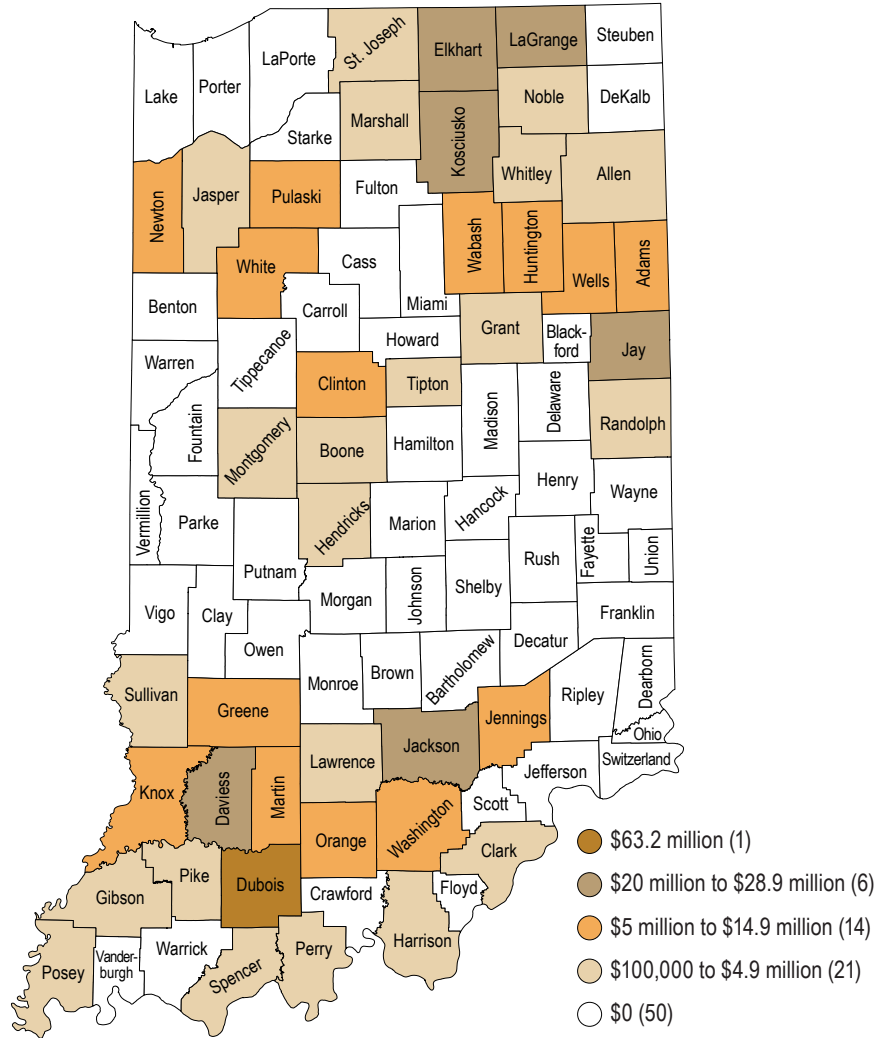
Source: IBRC, using data from the USDA and the IMPLAN economic modeling software

Table 8: Economic Effects of Poultry and Egg Production, Top 10 Counties, 2012

County	GDP Effects ($ million)				Employment Effects			
	Direct Effects	Ripple Effects	Total	Multiplier	Direct Effects	Ripple Effects	Total	Multiplier
Dubois	29.5	33.7	63.2	2.14	100	330	430	4.30
Daviess	14.3	14.3	28.6	2.00	40	150	190	4.75
Elkhart	17.4	10.0	27.4	1.58	100	140	240	2.40
Kosciusko	17.5	9.2	26.7	1.53	70	140	210	3.00
Jay	21.0	5.5	26.6	1.26	60	90	150	2.50
Jackson	15.4	7.4	22.8	1.48	70	100	170	2.43
LaGrange	11.8	8.9	20.8	1.76	90	100	190	2.11
Washington	11.6	2.9	14.5	1.25	60	40	100	1.67
White	5.4	4.8	10.2	1.90	10	40	50	5.00
Adams	6.9	2.9	9.8	1.42	30	50	80	2.67

Source: IBRC, using data from the USDA and the IMPLAN economic modeling software

Dairy Cattle and Milk Production

All of Indiana's major dairy counties are located in the northern half of the state (see **Figure 10**). Jasper County stands head and shoulders above all others with a total GDP effect of nearly $53 million in 2012. Other significant players are Elkhart ($32.4 million value-added effect), Newton ($29.4 million) and LaGrange ($22.5 million) counties. In all, 50 of the state's 92 counties had a total GDP effect below the $1 million mark in this industry in 2012.

Not only does Jasper County lead the way in direct dairy production, but it also produces the greatest relative ripple effects with the largest GDP and employment multipliers in this industry (see **Table 9**). In fact, according to the IMPLAN model, each direct dairy job in Jasper County supports another 1.5 jobs in other industries in the community. Just to the south, Benton County also features comparatively large multiplier effects.

Despite having lower sales, Elkhart and LaGrange counties have the largest total employment estimates in the dairy industry. As we have seen in some other industries, these county comparisons of employment effects are distorted somewhat by differing levels of productivity.

Figure 10: Total GDP Effect of Dairy Cattle and Milk Production by County, 2012

- $52.6 million (1)
- $22 million to $33 million (3)
- $5 million to $21.9 million (11)
- $1 million to $4.9 million (27)
- Less than $1 million (50)
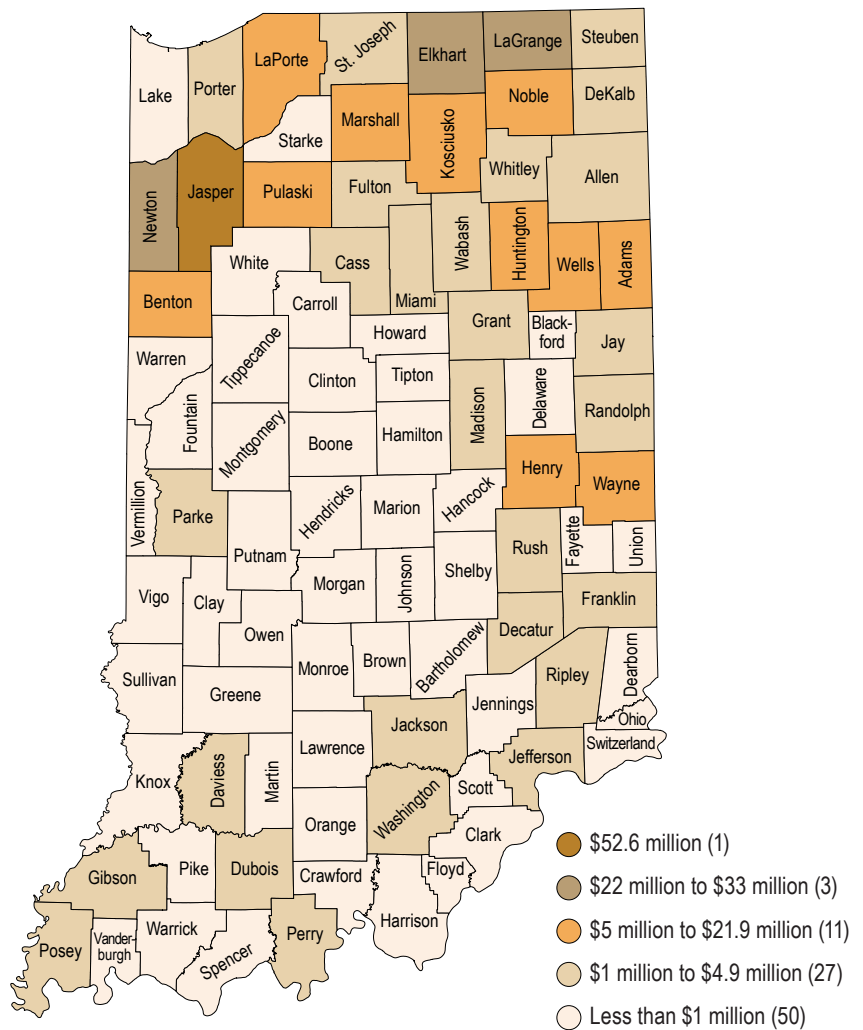
Source: IBRC, using data from the USDA and the IMPLAN economic modeling software

Table 9: Economic Effects of Dairy Cattle and Milk Production, Top 10 Counties, 2012

County	GDP Effects ($ million)				Employment Effects			
	Direct Effects	Ripple Effects	Total	Multiplier	Direct Effects	Ripple Effects	Total	Multiplier
Jasper	38.8	13.8	52.6	1.36	100	150	250	2.50
Elkhart	25.9	6.5	32.4	1.25	230	80	310	1.35
Newton	25.1	4.3	29.4	1.17	110	50	160	1.45
LaGrange	17.7	4.7	22.5	1.27	220	50	270	1.23
Adams	12.4	2.8	15.2	1.22	80	40	120	1.50
Benton	10.1	3.4	13.5	1.33	30	30	60	2.00
Marshall	10.7	1.8	12.5	1.16	80	20	100	1.25
LaPorte	8.9	2.5	11.5	1.28	50	30	80	1.60
Pulaski	8.3	1.5	9.8	1.18	40	20	60	1.50
Noble	6.3	1.6	7.9	1.26	70	20	90	1.29

Source: IBRC, using data from the USDA and the IMPLAN economic modeling software

Beef Cattle Ranching and Farming

As with the dairy industry, nearly all of the state's major beef cattle counties are located in northern Indiana (see **Figure 11**). LaGrange County ranked at the top in 2012 with a total GDP effect at an estimated $17.4 million, followed by Elkhart ($8.4 million) and DeKalb ($7.3 million) counties. These three communities also had the largest employment impacts (see **Table 10**).

A comparison of GDP effects between dairy cattle and beef cattle offers a good example of how industries impact local economies in different ways. LaGrange County's beef cattle industry, for instance, had $69.6 million in sales in 2012 compared to $44.6 million for dairy cattle. In terms of total GDP effects, however, dairy cattle ($22.5 million) had a larger impact than beef cattle ($17.4 million). The difference between the two is that dairy production is more labor intensive, which translates into higher value added. Beef cattle production, on the other hand, requires less labor, but it engages a longer supply chain. As a result, LaGrange County's beef cattle industry generated greater GDP ripple effects ($5.1 million) than its dairy industry did ($4.7 million), even though its dairy industry had a larger direct GDP effect.

Figure 11: Total GDP Effect of Beef Cattle Ranching and Farming by County, 2012

- $17.4 million (1)
- $5 million to $9 million (4)
- $2 million to $4.9 million (13)
- $1 million to $1.9 million (19)
- Less than $1 million (55)
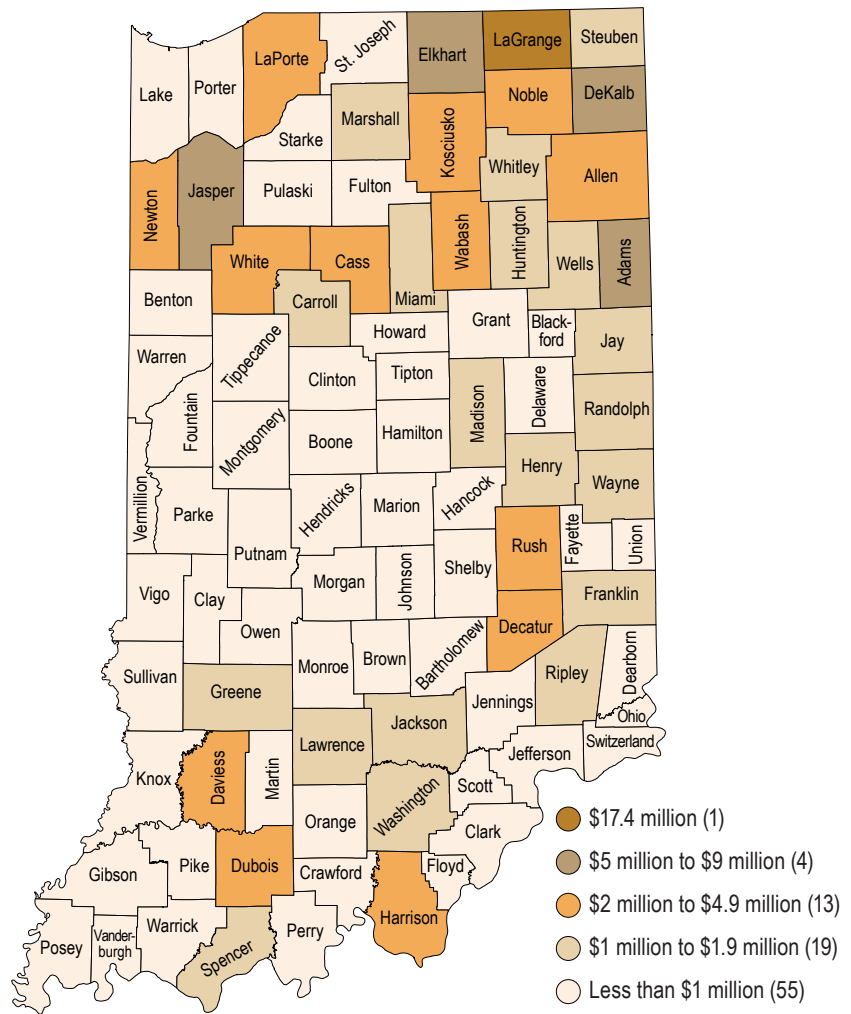
Source: IBRC, using data from the USDA and the IMPLAN economic modeling software

Table 10: Economic Effects of Beef Cattle Ranching and Farming, Top 10 Counties, 2012

County	GDP Effects ($ million)				Employment Effects			
	Direct Effects	Ripple Effects	Total	Multiplier	Direct Effects	Ripple Effects	Total	Multiplier
LaGrange	12.3	5.1	17.4	1.41	310	50	360	1.16
Elkhart	5.5	2.9	8.4	1.52	110	30	140	1.27
DeKalb	5.1	2.2	7.3	1.44	150	20	170	1.13
Jasper	4.8	2.4	7.1	1.50	20	20	40	2.00
Adams	4.0	2.0	5.9	1.49	60	20	80	1.33
Allen	2.8	2.0	4.8	1.73	60	20	80	1.33
Wabash	2.8	1.2	4.0	1.43	30	20	50	1.67
Kosciusko	2.8	1.1	3.9	1.40	40	20	60	1.50
Cass	2.1	0.7	2.9	1.35	20	10	30	1.50
Dubois	1.9	1.0	2.8	1.53	20	10	30	1.50

Source: IBRC, using data from the USDA and the IMPLAN economic modeling software

Grain and Soybean Processing

Grain and soybean processing is the state's largest agricultural manufacturing category measured by sales, yet has a presence in a relatively small number counties (see **Figure 12**). Marion County was the state's top county in this industry in 2012 with a total GDP impact at roughly $985 million, more than three-times greater than runner-up Tippecanoe County ($300.2 million). Lake County's total GDP effect in this industry ($184.6 million) also stands out. Large ethanol or biodiesel production facilities helped St. Joseph, Posey, Kosciusko and Randolph counties place in this industry's top 10.

One distinguishing characteristic of the grain and soybean processing industry is its large employment multiplier effect. Marion County's 6.6 multiplier suggests that each direct job in the industry supports more than five additional jobs in the county. Several other top counties have employment multipliers above 4 (see **Table 11**). These large multipliers indicate that these processors are able to generate a lot of output with relatively few employees, while also tapping into a large supplier base. In large counties with a diverse industry mix, local firms are able to capture a greater share of this industry's ripple effects.

$985.5 million (1)
$184 million to $300.2 million (2)
$41 million to $90.8 million (15)
$1 million to $33.5 million (10)
$0 (64)
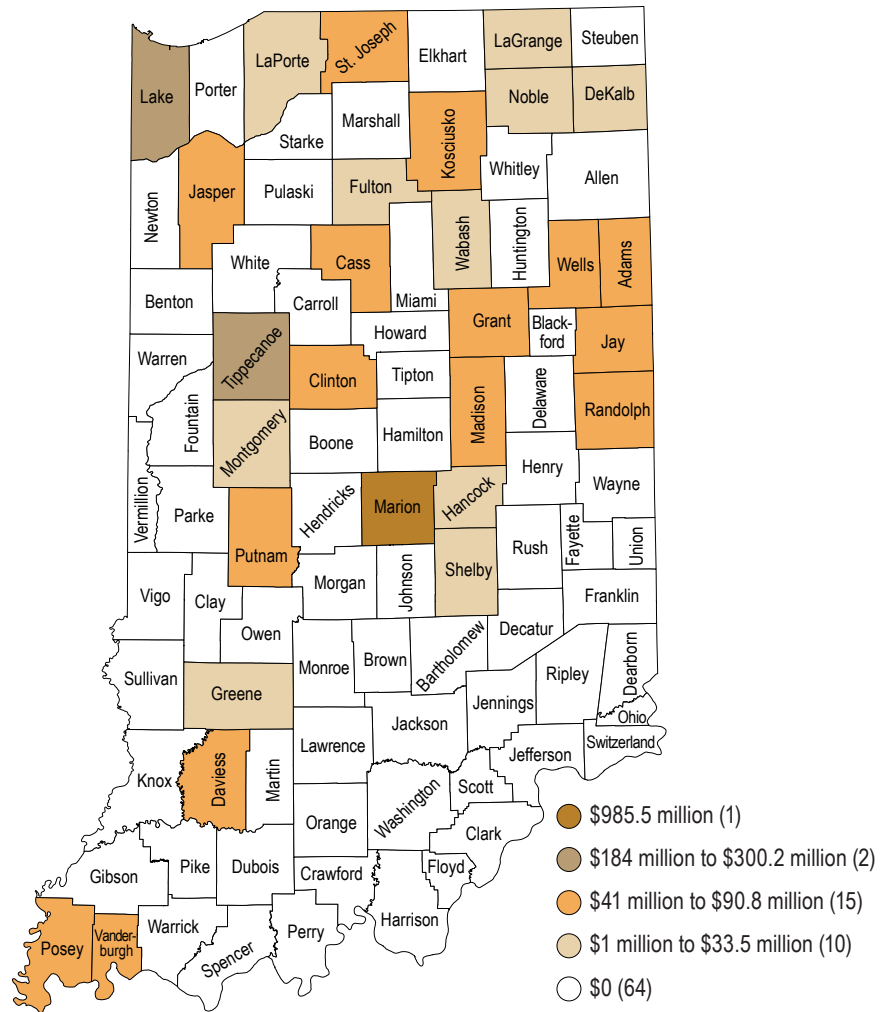
Source: IBRC, using data from the USDA and the IMPLAN economic modeling software

Table 11: Economic Effects of Grain and Soybean Processing, Top 10 Counties, 2012

County	GDP Effects ($ million)				Employment Effects			
	Direct Effects	Ripple Effects	Total	Multiplier	Direct Effects	Ripple Effects	Total	Multiplier
Marion	472.4	513.2	985.5	2.09	940	5,270	6,210	6.61
Tippecanoe	167.1	133.1	300.2	1.80	550	1,750	2,300	4.18
Lake	86.8	97.8	184.6	2.13	260	1,080	1,340	5.15
Vanderburgh	35.9	54.9	90.8	2.53	160	600	760	4.75
St. Joseph	57.8	29.6	87.4	1.51	150	350	500	3.33
Clinton	76.2	10.6	86.9	1.14	80	140	220	2.75
Posey	56.6	24.2	80.8	1.43	165	235	400	2.43
Kosciusko	46.4	29.5	75.9	1.64	35	222	257	7.34
Adams	39.4	28.8	68.2	1.73	310	430	740	2.39
Randolph	52.0	16.1	68.1	1.31	45	163	208	4.62

Source: IBRC, using data from the USDA and the IMPLAN economic modeling software

Animal Processing

Poultry operations help to propel Dubois, Daviess and Kosciusko counties to the top of the list of animal processing counties in Indiana, while Carroll and Cass counties owe their positions to local pork facilities (see **Figure 13**). Dubois County had the largest total GDP impact in 2012 at an estimated $169 million, followed by Daviess ($144 million) and Carroll ($123 million) counties. It's interesting to note that Carroll and Cass counties led the state in the dollar value of sales for this industry in 2012, yet Dubois and Daviess counties claim the top spots for total GDP because poultry processing is a higher value-added activity than pork processing.

Carroll and Cass counties do rank at the top for total employment impacts in the animal processing industry. Both counties can boast a total employment impact of more than 2,500 jobs for this industry (see **Table 12**). The combined effects of animal processing alone accounted for one quarter of all jobs in Carroll County in 2012, and it supported roughly 13 percent of Cass County's total employment that same year. In all, animal processing was responsible for at least 1,000 jobs in six Indiana counties in 2012.

Figure 13: Total GDP Effect of Animal Processing by County, 2012
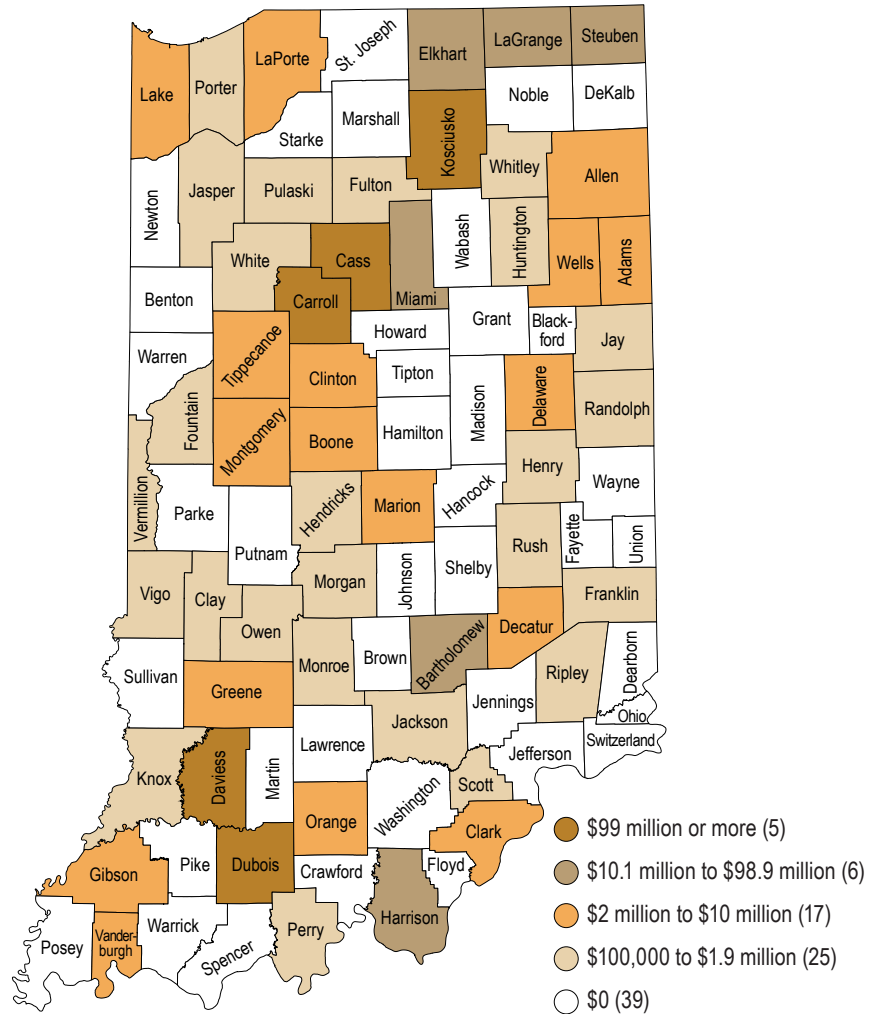
Source: IBRC, using data from the USDA and the IMPLAN economic modeling software

Table 12: Economic Effects of Animal Processing, Top 10 Counties, 2012

County	GDP Effects ($ million)				Employment Effects			
	Direct Effects	Ripple Effects	Total	Multiplier	Direct Effects	Ripple Effects	Total	Multiplier
Dubois	115.9	53.4	169.4	1.46	970	690	1,660	1.71
Daviess	108.4	35.9	144.3	1.33	960	560	1,520	1.58
Carroll	82.7	39.8	122.6	1.48	1,920	680	2,600	1.35
Kosciusko	81.6	29.3	110.8	1.36	710	410	1,120	1.58
Cass	63.2	35.9	99.1	1.57	1,930	580	2,510	1.30
Elkhart	33.1	21.6	54.8	1.65	710	290	1,000	1.41
Harrison	40.6	11.9	52.5	1.29	340	160	500	1.47
Steuben	20.4	6.3	26.7	1.31	160	90	250	1.56
Miami	11.0	4.9	15.9	1.45	270	70	340	1.26
Bartholomew	8.3	4.6	12.8	1.56	210	60	270	1.29

Source: IBRC, using data from the USDA and the IMPLAN economic modeling software

Food Manufacturing

With contributions from companies like Red Gold and Nestlé, Madison County has the state's largest GDP effect in the food manufacturing industry with a total impact at nearly $477 million in 2012. Some of Indiana's most populous communities are also big players in this industry as Marion, Allen and Vanderburgh counties claim the next three spots on the list. Huntington County, with the help of dairy products maker Dean Foods, and Marshall County, led by the fruit processor Zentis, complete the top six (see **Figure 14**).

Madison County's food manufacturing firms supported an estimated total of 3,540 jobs in 2012, with more than half of these jobs a result of the industry's ripple effects. Marion, Allen and Vanderburgh counties also had total employment impacts of more than 1,000 jobs. With the exception of Marshall and Adams counties, the employment multipliers for each county in **Table 13** was at least 2, which indicates that each direct job in food manufacturing supports at least one more job in other industries in the county. With a mark of 3.1, Marion County had the largest employment multiplier in this industry.

Figure 14: Total GDP Effect of Food Manufacturing by County, 2012

More than $240 million (3)
$75 million to $143 million (9)
$10 million to $68.1 million (21)
$300,000 to $8.5 million (22)
$0 (37)
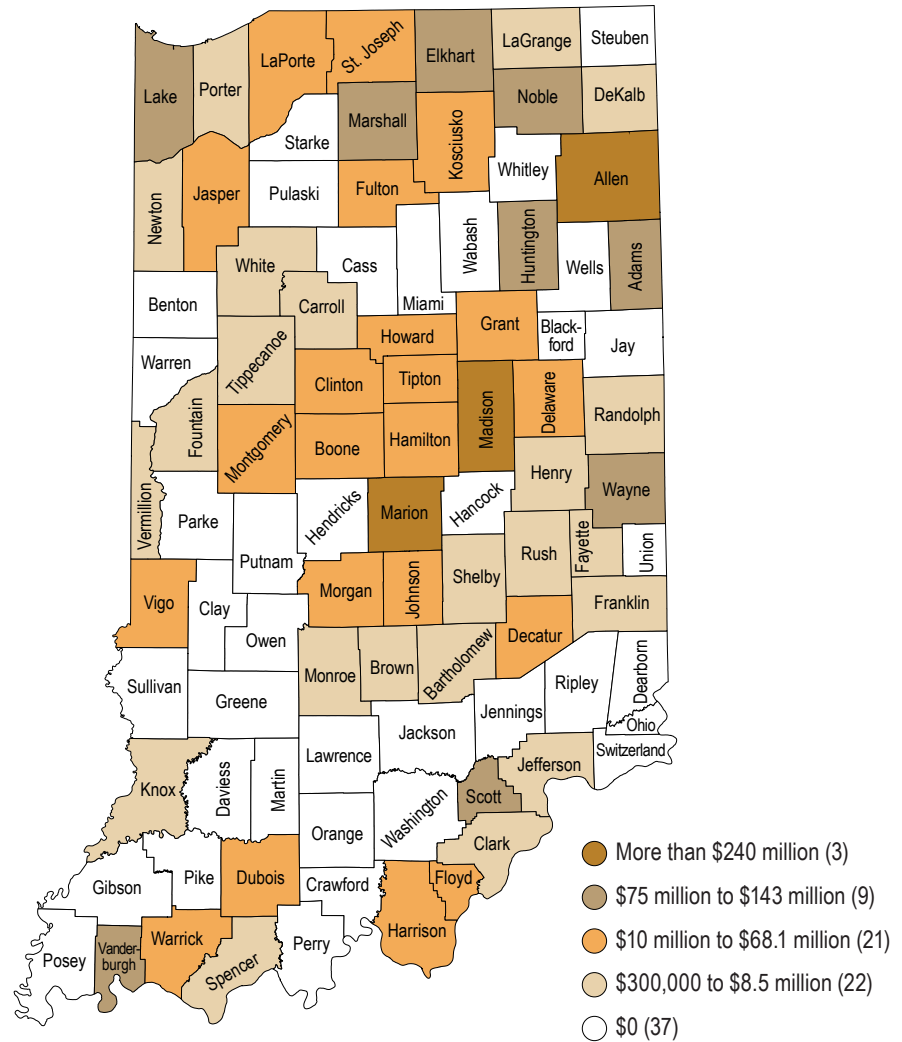
Source: IBRC, using data from the USDA and the IMPLAN economic modeling software

Table 13: Economic Effects of Food Manufacturing, Top 10 Counties, 2012

County	GDP Effects ($ million)				Employment Effects			
	Direct Effects	Ripple Effects	Total	Multiplier	Direct Effects	Ripple Effects	Total	Multiplier
Madison	340.7	136.0	476.7	1.40	1,660	1,880	3,540	2.13
Marion	196.1	134.8	330.9	1.69	690	1,450	2,140	3.10
Allen	148.7	91.7	240.4	1.62	720	1,220	1,940	2.69
Vanderburgh	84.0	58.9	142.8	1.70	630	730	1,360	2.16
Huntington	96.8	32.6	129.5	1.34	410	440	850	2.07
Marshall	98.4	20.9	119.3	1.21	590	310	900	1.53
Lake	67.6	29.8	97.4	1.44	360	360	720	2.00
Wayne	64.9	24.6	89.5	1.38	270	350	620	2.30
Elkhart	52.2	34.6	86.8	1.66	340	420	760	2.24
Adams	66.0	17.6	83.6	1.27	420	270	690	1.64

Source: IBRC, using data from the USDA and the IMPLAN economic modeling software

Forestry and Wood Product Manufacturing

Counties in the Indianapolis and Louisville metro areas dominate the state's forestry and wood product manufacturing industry (see **Figure 15**). Johnson County had the largest GDP effect in these industries in 2012 with an estimated total of nearly $46 million, followed by Marion ($41 million), Floyd ($40 million) and Clark ($36.3 million) counties. Outside of these two metro areas, Vigo County was the top producer in these industries with a total GDP impact of $33.9 million. Each of these five counties had a total employment effect in this industry of at least 500 jobs in 2012 (see **Table 14**).

It is important to note that this industry includes only a few wood manufacturing activities, such as sawmills or veneer and plywood manufacturing. The analysis was limited to those manufacturing activities for which raw forestry production accounts for a significant share of the supply chain. If this analysis included higher value-added types of products, such as wood furniture or cabinetry, which rely more on dimension-cut wood inputs, then counties like Dubois and Elkhart would rank much higher on the list.

Figure 15: Total GDP Effect of Forestry and Wood Product Manufacturing by County, 2012

- More than $33 million (5)
- $11.6 million to $20.9 million (9)
- $1 million to $9.9 million (36)
- $100,000 to $900,000 (20)
- Less than $100,000 (22)
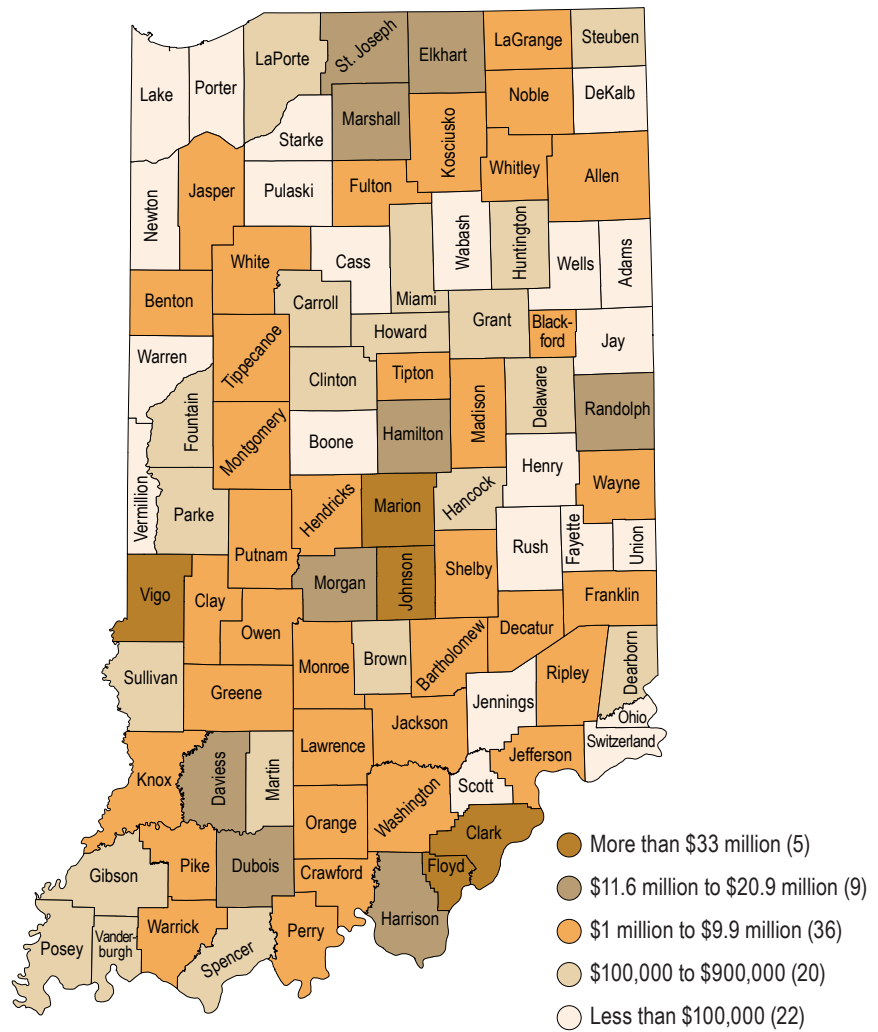
Source: IBRC, using data from the USDA and the IMPLAN economic modeling software

Table 14: Economic Effects of Forestry and Wood Product Manufacturing, Top 10 Counties, 2012

County	GDP Effects ($ million)				Employment Effects			
	Direct Effects	Ripple Effects	Total	Multiplier	Direct Effects	Ripple Effects	Total	Multiplier
Johnson	29.6	16.4	45.9	1.55	460	230	690	1.50
Marion	23.7	17.4	41.0	1.73	310	190	500	1.61
Floyd	28.2	11.8	40.0	1.42	330	170	500	1.52
Clark	24.0	12.3	36.3	1.51	340	180	520	1.53
Vigo	19.3	14.7	33.9	1.76	420	190	610	1.45
Harrison	15.1	5.8	20.9	1.39	240	80	320	1.33
St. Joseph	12.0	8.0	19.9	1.67	110	110	220	2.00
Elkhart	12.3	6.4	18.7	1.52	180	80	260	1.44
Dubois	11.0	6.9	17.9	1.63	210	100	310	1.48
Daviess	12.2	4.6	16.8	1.37	130	80	210	1.62

Source: IBRC, using data from the USDA and the IMPLAN economic modeling software

County Data Tables

Table 15: Total Economic Contributions of Agriculture by County, 2012

County	GDP Effects ($ million)				Employment Effects			
	Direct Effects	Ripple Effects	Total	% of Total County GDP	Direct Effects	Ripple Effects	Total	% of Total County Jobs
Adams	196.3	85.5	281.8	21.5%	2,600	1,230	3,830	18.1%
Allen	252.8	160.0	412.8	2.2%	3,030	2,090	5,120	2.3%
Bartholomew	43.7	21.3	65.0	1.0%	1,100	230	1,330	2.3%
Benton	71.2	31.1	102.3	32.6%	690	300	990	22.2%
Blackford	31.5	9.4	40.9	11.3%	530	130	660	12.5%
Boone	59.8	29.7	89.6	3.4%	740	340	1,080	2.9%
Brown	3.1	0.7	3.8	1.4%	150	0	150	2.9%
Carroll	171.0	72.7	243.8	44.0%	2,950	1,140	4,090	40.1%
Cass	159.5	70.2	229.7	19.2%	2,820	1,020	3,840	20.3%
Clark	43.5	23.6	67.1	1.5%	980	310	1,290	2.1%
Clay	28.2	8.8	37.0	5.6%	620	130	750	6.7%
Clinton	216.7	45.7	262.3	17.4%	1,580	530	2,110	15.3%
Crawford	3.8	1.2	5.0	2.3%	290	10	300	8.0%
Daviess	202.2	95.3	297.5	28.4%	2,230	1,270	3,500	20.8%
Dearborn	4.3	2.2	6.5	0.4%	380	0	380	1.7%
Decatur	101.2	31.2	132.3	7.9%	1,030	360	1,390	8.7%
DeKalb	40.8	20.5	61.2	2.9%	1,440	220	1,660	6.8%
Delaware	55.8	34.2	90.0	2.3%	1,300	430	1,730	2.9%
Dubois	235.3	126.4	361.8	14.2%	2,000	1,520	3,520	10.6%
Elkhart	199.1	107.9	307.0	2.9%	3,460	1,370	4,830	3.5%
Fayette	14.4	6.3	20.7	3.4%	370	80	450	4.7%
Floyd	41.7	17.6	59.4	2.2%	590	240	830	2.2%
Fountain	42.6	15.5	58.2	9.3%	720	190	910	11.1%
Franklin	19.9	7.9	27.8	6.7%	720	80	800	11.2%
Fulton	101.3	33.4	134.7	19.4%	1,140	470	1,610	16.0%
Gibson	52.2	13.5	65.6	1.8%	760	180	940	4.1%
Grant	118.6	58.7	177.3	7.3%	1,035	750	1,785	5.0%
Greene	53.8	20.4	74.2	11.7%	1,190	260	1,450	14.2%
Hamilton	99.7	73.8	173.5	1.2%	1,670	890	2,560	1.4%
Hancock	48.0	21.7	69.6	3.0%	880	290	1,170	3.1%
Harrison	81.1	27.5	108.6	12.0%	1,560	340	1,900	13.3%
Hendricks	31.3	21.6	53.0	1.0%	770	250	1,020	1.3%
Henry	41.6	16.3	57.9	5.1%	920	200	1,120	6.2%
Howard	58.6	24.4	82.9	2.1%	880	320	1,200	2.6%
Huntington	156.8	57.7	214.5	15.9%	1,490	740	2,230	12.6%
Jackson	59.0	27.1	86.1	3.8%	1,380	320	1,700	6.9%
Jasper	175.9	81.2	257.2	20.9%	1,460	980	2,440	14.5%
Jay	124.4	30.9	155.3	17.7%	1,400	390	1,790	16.7%

County	GDP Effects ($ million)				Employment Effects			
	Direct Effects	Ripple Effects	Total	% of Total County GDP	Direct Effects	Ripple Effects	Total	% of Total County Jobs
Jefferson	18.7	7.4	26.1	2.0%	750	70	820	4.9%
Jennings	24.6	5.9	30.5	4.6%	630	80	710	6.7%
Johnson	66.7	39.6	106.2	2.4%	1,340	540	1,880	2.7%
Knox	84.9	39.7	124.6	7.1%	1,030	520	1,550	7.0%
Kosciusko	220.9	95.9	316.9	7.5%	2,385	1,130	3,515	7.7%
LaGrange	96.0	36.4	132.4	12.0%	2,360	400	2,760	16.8%
Lake	188.6	154.3	342.9	1.4%	1,510	1,750	3,260	1.3%
LaPorte	119.2	68.8	188.1	4.6%	1,870	880	2,750	5.0%
Lawrence	15.6	6.6	22.2	1.9%	540	80	620	3.3%
Madison	434.3	193.0	627.3	17.5%	2,930	2,460	5,390	10.4%
Marion	718.7	682.2	1,400.9	2.1%	3,140	7,110	10,250	1.6%
Marshall	157.2	41.2	198.5	11.3%	2,000	570	2,570	10.8%
Martin	16.5	2.6	19.2	2.0%	260	20	280	3.4%
Miami	73.3	23.5	96.8	10.8%	1,310	270	1,580	13.2%
Monroe	14.5	8.1	22.5	0.3%	540	90	630	0.8%
Montgomery	107.7	39.9	147.6	9.3%	1,320	490	1,810	9.5%
Morgan	42.4	14.7	57.1	4.2%	900	170	1,070	5.3%
Newton	78.9	24.5	103.4	29.6%	1,040	320	1,360	21.8%
Noble	127.4	43.8	171.3	8.2%	2,270	500	2,770	11.2%
Ohio	1.4	0.4	1.8	1.5%	100	0	100	5.2%
Orange	26.3	8.0	34.2	5.5%	800	100	900	9.6%
Owen	10.4	3.1	13.5	2.6%	500	40	540	7.2%
Parke	21.4	6.2	27.6	8.2%	360	60	420	8.8%
Perry	9.4	3.4	12.8	2.0%	310	10	320	3.7%
Pike	20.4	6.2	26.6	5.2%	540	50	590	12.9%
Porter	35.7	19.9	55.6	0.8%	770	220	990	1.3%
Posey	103.0	49.7	152.7	7.8%	735	475	1,210	9.2%
Pulaski	56.7	22.4	79.0	17.8%	920	270	1,190	17.8%
Putnam	77.8	30.4	108.1	10.3%	985	275	1,260	7.6%
Randolph	160.4	44.4	204.7	26.3%	1,985	520	2,505	23.5%
Ripley	48.0	19.2	67.2	5.6%	1,320	200	1,520	10.2%
Rush	63.7	14.5	78.2	16.1%	750	170	920	13.4%
Scott	77.7	14.7	92.4	15.8%	740	220	960	11.0%
Shelby	68.4	27.2	95.6	6.0%	1,100	370	1,470	6.6%
Spencer	33.0	12.1	45.1	5.5%	780	140	920	9.1%
St. Joseph	142.1	86.3	228.4	1.9%	1,530	1,040	2,570	1.7%
Starke	20.0	8.3	28.3	7.1%	600	100	700	10.8%
Steuben	39.6	14.2	53.8	4.3%	930	160	1,090	5.9%
Sullivan	33.8	11.7	45.5	6.4%	520	140	660	7.6%
Switzerland	3.5	1.2	4.6	2.6%	170	0	170	5.8%

County	GDP Effects ($ million)				Employment Effects			
	Direct Effects	Ripple Effects	Total	% of Total County GDP	Direct Effects	Ripple Effects	Total	% of Total County Jobs
Tippecanoe	234.7	174.8	409.5	4.4%	1,710	2,270	3,980	3.9%
Tipton	72.1	27.4	99.5	23.9%	990	330	1,320	21.6%
Union	14.2	5.9	20.0	11.9%	240	70	310	11.9%
Vanderburgh	134.6	126.6	261.2	2.6%	1,290	1,470	2,760	2.2%
Vermillion	22.8	9.4	32.2	3.8%	340	100	440	7.2%
Vigo	71.0	43.6	114.6	2.5%	1,090	540	1,630	2.7%
Wabash	104.8	33.4	138.2	11.3%	1,380	440	1,820	10.5%
Warren	35.0	13.8	48.8	20.7%	480	150	630	19.5%
Warrick	28.2	12.2	40.4	2.5%	550	140	690	3.2%
Washington	38.6	10.8	49.5	8.8%	830	140	970	11.2%
Wayne	118.5	48.7	167.2	6.2%	1,270	660	1,930	5.3%
Wells	128.4	47.5	175.9	16.7%	1,490	590	2,080	15.8%
White	108.1	34.2	142.3	16.1%	1,060	350	1,410	13.0%
Whitley	37.6	10.2	47.8	3.6%	1,070	110	1,180	8.2%
State Total	8,230	7,170	15,400	5.0%	107,570	83,080	190,650	5.3%

Note: The state totals are larger than the sum of all counties because the agricultural activities in any given county will also have ripple effects in other communities. The county-specific estimates do not capture these cross-border impacts, however.
Source: IBRC, using data from the USDA and the IMPLAN economic modeling software

Table 16: Value of Sales in Largest Agricultural Production Industries by County, 2012

County	Corn, Wheat and Other Grains		Soybeans and Other Oilseeds		Hog and Pig Production		Poultry and Egg Production	
	Sales ($ million)	State Rank	Sales ($ million)	State Rank	Sales ($ million)	State Rank	Sales ($ million)	State Rank
Adams	58.2	33	59.0	9	39.4	9	35.9	9
Allen	71.8	23	72.2	1	11.2	42	1.7	38
Bartholomew	49.1	39	33.8	43	5.2	55	0.0	63
Benton	108.4	5	61.7	8	12.0	35	0.0	89
Blackford	26.7	65	31.3	45	11.7	37	0.0	85
Boone	72.3	21	54.1	11	8.4	47	3.3	32
Brown	1.2	90	0.6	92	0.2	81	0.0	84
Carroll	89.7	10	45.2	28	79.2	2	0.2	46
Cass	76.4	16	42.7	30	17.0	21	0.0	61
Clark	9.7	79	11.1	78	0.4	78	3.0	34
Clay	27.2	62	27.8	55	2.5	68	0.0	78
Clinton	110.0	4	68.1	2	53.6	6	18.0	21
Crawford	0.9	92	0.7	91	2.5	67	0.0	63
Daviess	53.5	37	23.3	60	18.7	19	74.6	6
Dearborn	4.0	85	3.3	87	0.1	84	0.0	70
Decatur	47.4	44	43.8	29	46.8	8	0.0	73
DeKalb	34.2	54	34.6	42	3.0	64	0.0	56
Delaware	61.2	31	51.0	16	6.2	54	0.0	58

County	Corn, Wheat and Other Grains		Soybeans and Other Oilseeds		Hog and Pig Production		Poultry and Egg Production	
	Sales ($ million)	State Rank	Sales ($ million)	State Rank	Sales ($ million)	State Rank	Sales ($ million)	State Rank
Dubois	29.7	59	21.6	64	15.9	23	153.7	1
Elkhart	45.0	47	29.0	52	23.3	14	90.7	4
Fayette	17.8	72	14.4	72	3.4	62	0.0	79
Floyd	1.6	89	1.4	89	0.1	83	0.0	85
Fountain	72.6	20	40.6	32	0.2	80	0.1	53
Franklin	21.3	70	19.4	67	4.0	59	0.0	58
Fulton	81.1	11	36.7	37	7.5	51	0.0	80
Gibson	78.4	12	46.8	25	7.7	49	2.9	35
Grant	57.5	35	62.9	7	7.5	50	1.3	40
Greene	27.2	61	25.8	59	12.6	34	22.5	18
Hamilton	48.9	41	36.3	38	1.7	72	0.0	92
Hancock	48.9	40	41.6	31	16.6	22	0.1	50
Harrison	12.6	77	12.3	77	0.6	76	17.7	22
Hendricks	45.2	46	33.0	44	4.5	57	0.6	44
Henry	45.7	45	38.9	33	8.4	48	0.0	72
Howard	63.7	28	49.1	21	22.6	16	0.1	55
Huntington	60.8	32	53.3	12	14.7	25	25.8	13
Jackson	37.5	52	35.7	39	14.9	24	80.5	5
Jasper	156.3	1	46.2	26	13.0	33	11.0	24
Jay	48.1	43	49.7	20	57.8	4	109.7	2
Jefferson	10.4	78	17.6	70	4.2	58	0.0	60
Jennings	22.7	68	22.5	61	6.9	52	24.4	15
Johnson	32.3	56	27.9	54	3.5	60	0.0	67
Knox	92.1	6	63.0	6	10.1	44	22.6	17
Kosciusko	77.0	15	51.3	15	25.9	13	91.2	3
LaGrange	40.9	49	19.7	66	11.3	41	61.7	7
Lake	63.1	29	30.5	49	0.1	86	0.0	69
LaPorte	117.4	3	47.9	23	11.4	40	0.0	63
Lawrence	6.9	83	9.2	80	0.0	88	3.2	33
Madison	77.2	14	63.3	5	4.6	56	0.1	53
Marion	3.4	87	3.0	88	0.0	91	0.0	91
Marshall	66.7	24	37.1	36	1.4	73	4.1	30
Martin	7.7	81	5.2	83	11.7	38	27.0	12
Miami	54.1	36	47.8	24	39.3	10	0.0	73
Monroe	3.7	86	3.5	85	0.0	87	0.2	47
Montgomery	91.2	7	55.2	10	23.3	15	0.3	45
Morgan	22.1	69	21.9	63	2.1	70	0.0	73
Newton	90.4	9	37.3	35	17.0	20	24.8	14
Noble	48.6	42	30.9	47	26.4	12	9.6	25

(continued) Table 16: Value of Sales in Largest Agricultural Production Industries by County, 2012

County	Corn, Wheat and Other Grains		Soybeans and Other Oilseeds		Hog and Pig Production		Poultry and Egg Production	
	Sales ($ million)	State Rank	Sales ($ million)	State Rank	Sales ($ million)	State Rank	Sales ($ million)	State Rank
Ohio	1.1	91	1.3	90	0.0	92	0.0	85
Orange	7.0	82	6.6	82	21.9	17	24.2	16
Owen	9.4	80	8.5	81	0.7	75	0.0	62
Parke	27.1	63	21.9	62	0.1	85	0.1	51
Perry	4.3	84	4.3	84	2.2	69	2.5	37
Pike	15.2	75	13.1	75	13.1	32	7.9	28
Porter	63.9	27	30.9	48	2.1	71	0.0	89
Posey	73.7	18	47.9	22	11.8	36	2.5	36
Pulaski	90.8	8	34.7	41	13.4	29	21.3	19
Putnam	32.9	55	27.5	56	9.4	46	0.0	83
Randolph	61.6	30	64.0	4	76.9	3	8.5	26
Ripley	37.7	51	30.9	46	11.0	43	0.1	48
Rush	51.6	38	45.7	27	50.4	7	0.0	76
Scott	12.8	76	9.9	79	0.0	90	0.0	67
Shelby	58.1	34	51.4	14	13.3	30	0.0	70
Spencer	30.1	57	28.6	53	13.2	31	12.6	23
St. Joseph	73.4	19	27.2	57	6.6	53	1.2	41
Starke	42.2	48	12.7	76	0.0	89	1.0	42
Steuben	24.2	66	14.3	73	2.8	65	3.4	31
Sullivan	35.2	53	30.5	50	11.6	39	6.5	29
Switzerland	2.7	88	3.5	86	0.3	79	0.0	63
Tippecanoe	75.6	17	50.7	17	13.6	28	0.1	52
Tipton	77.7	13	51.8	13	18.8	18	8.1	27
Union	19.6	71	16.9	71	2.7	66	0.0	85
Vanderburgh	17.6	73	13.7	74	0.7	74	1.4	39
Vermillion	27.7	60	17.9	69	13.7	27	0.0	76
Vigo	23.5	67	21.2	65	0.2	82	0.0	81
Wabash	65.3	26	49.9	19	54.3	5	31.7	10
Warren	66.2	25	38.3	34	3.1	63	0.0	57
Warrick	17.2	74	19.3	68	0.5	77	0.0	81
Washington	26.8	64	26.3	58	3.5	61	60.4	8
Wayne	29.9	58	29.1	51	9.9	45	0.1	49
Wells	72.0	22	66.8	3	34.1	11	18.9	20
White	118.7	2	50.4	18	88.6	1	28.0	11
Whitley	38.2	50	35.3	40	14.3	26	1.0	43
State Total	4,261.1	x	2,956.8	x	1,273.1	x	1,164.2	x

Note: The USDA does not publish sales values for certain industries in some counties that do not meet disclosure requirements. The IBRC estimated any sales values not published by the USDA. See the appendix for a description of the process IBRC used to estimate sales values. Some counties had very little production in some industries and their values round down to "0.0."
Source: IBRC, using USDA 2012 Census of Agriculture data

Table 17: Value of Sales in Agricultural Processing Industries by County, 2012

County	Grain and Soybean Processing		Food Manufacturing		Animal Processing		Forestry and Wood Manufacturing	
	Sales ($ million)	State Rank	Sales ($ million)	State Rank	Sales ($ million)	State Rank	Sales ($ million)	State Rank
Adams	627.7	4	218.3	11	12.1	24	1.6	56
Allen	0	-	542.5	3	7.3	35	11.1	29
Bartholomew	0	-	5.3	45	68.3	10	14.8	21
Benton	0	-	0	-	0	-	4.5	45
Blackford	0	-	0	-	0	-	19.2	20
Boone	0	-	25.3	34	23	17	0	-
Brown	0	-	4.4	47	0	-	1.3	60
Carroll	0	-	2.4	51	626	1	0.9	65
Cass	337.6	10	0	-	610.3	2	0.1	75
Clark	0	-	12.7	41	30.3	14	76.8	4
Clay	0	-	0	-	5.4	38	28.9	14
Clinton	395.3	7	133.2	16	11.3	27	1.3	59
Crawford	0	-	0	-	0	-	8	34
Daviess	238.3	14	0	-	437.8	4	34.5	10
Dearborn	0	-	0	-	0	-	1.6	57
Decatur	0	-	103.2	17	11.5	26	7.1	36
DeKalb	65.2	22	19.5	38	0	-	0.1	73
Delaware	0	-	30.5	30	19.1	19	0.3	71
Dubois	0	-	186.3	13	449.2	3	47.3	8
Elkhart	0	-	294.7	6	243.7	6	43	9
Fayette	0	-	9.5	43	0	-	0	-
Floyd	0	-	35.6	25	0	-	80.7	3
Fountain	0	-	16.7	40	0.5	53	1	63
Franklin	0	-	2.4	50	2.8	46	4.1	47
Fulton	29.3	26	193	12	12.7	23	28.8	15
Gibson	0	-	0	-	22	18	0.4	69
Grant	197.5	19	95.1	19	0	-	1.5	58
Greene	57.2	24	0	-	23.2	16	6.8	37
Hamilton	0	-	60.7	24	0	-	30.3	13
Hancock	42.1	25	0	-	0	-	0.4	70
Harrison	0	-	26.4	33	159.8	7	52	6
Hendricks	0	-	0	-	2.9	44	3.6	49
Henry	0	-	2.3	52	7.3	36	0.1	74

County	Grain and Soybean Processing		Food Manufacturing		Animal Processing		Forestry and Wood Manufacturing	
	Sales ($ million)	State Rank	Sales ($ million)	State Rank	Sales ($ million)	State Rank	Sales ($ million)	State Rank
Howard	0	-	33.4	27	0	-	2.6	51
Huntington	0	-	399.4	4	4.1	40	2.2	54
Jackson	0	-	0	-	8.7	33	27.6	16
Jasper	251.7	13	72.4	23	7.9	34	11.6	26
Jay	208.7	16	0	-	9.4	32	0	-
Jefferson	0	-	4.4	48	0	-	6.8	38
Jennings	0	-	0	-	0	-	0.1	76
Johnson	0	-	31.9	28	0	-	103.7	1
Knox	0	-	2.1	53	10.4	29	6.3	42
Kosciusko	401.1	6	30.5	29	326.3	5	7.5	35
LaGrange	4.5	28	26.7	32	31.6	12	13.8	23
Lake	638.7	3	233.6	9	15.1	21	0	-
LaPorte	13.3	27	99	18	31.3	13	1.7	55
Lawrence	0	-	0	-	0	-	5.9	44
Madison	208.7	16	1,126.40	1	0	-	3.5	50
Marion	2,849.4	1	734.4	2	10.3	30	74	5
Marshall	0	-	321.1	5	0	-	25.7	17
Martin	0	-	0	-	0	-	4.1	46
Miami	0	-	0	-	88.9	8	0.8	66
Monroe	0	-	17.8	39	0.7	52	14.3	22
Montgomery	184.1	21	140.1	15	32.2	11	6.4	41
Morgan	0	-	34.9	26	2.9	45	33.9	11
Newton	0	-	24.8	36	0	-	0.2	72
Noble	61.5	23	180.2	14	0	-	12.2	25
Ohio	0	-	0	-	0	-	0	-
Orange	0	-	0	-	30	15	11.2	27
Owen	0	-	0	-	5.1	39	8.7	32
Parke	0	-	0	-	0	-	0.9	64
Perry	0	-	0	-	9.4	31	8.5	33
Pike	0	-	0	-	0	-	8.9	30
Porter	0	-	6.1	44	1.1	49	0	-
Posey	464.2	5	0	-	0	-	0.6	68
Pulaski	0	-	0	-	2.6	47	0	-

County	Grain and Soybean Processing		Food Manufacturing		Animal Processing		Forestry and Wood Manufacturing	
	Sales ($ million)	State Rank	Sales ($ million)	State Rank	Sales ($ million)	State Rank	Sales ($ million)	State Rank
Putnam	292.4	12	0	-	0	-	20.7	19
Randolph	306.9	11	21.3	37	3.6	42	49	7
Ripley	0	-	0	-	10.7	28	13.5	24
Rush	0	-	1.7	54	4	41	0	-
Scott	0	-	227.3	10	0.8	51	0	-
Shelby	196.2	20	25.2	35	0	-	6.8	39
Spencer	0	-	4.9	46	0	-	1.3	61
St. Joseph	377.4	8	89.2	21	0	-	30.6	12
Starke	0	-	0	-	0	-	0	-
Steuben	0	-	0	-	77.4	9	0.6	67
Sullivan	0	-	0	-	0	-	2.3	53
Switzerland	0	-	0	-	0	-	0	-
Tippecanoe	1,313.80	2	9.8	42	13.6	22	4	48
Tipton	0	-	77.3	22	0	-	2.3	52
Union	0	-	0	-	0	-	0	-
Vanderburgh	222	15	279.2	7	16.1	20	1.2	62
Vermillion	0	-	0.7	55	3.5	43	0.1	77
Vigo	0	-	90.5	20	0.9	50	80.9	2
Wabash	208.7	16	0	-	0	-	0	-
Warren	0	-	0	-	0	-	0	-
Warrick	0	-	28.7	31	0	-	6.2	43
Washington	0	-	0	-	0	-	24.3	18
Wayne	0	-	240.3	8	0	-	11.2	28
Wells	368.3	9	0	-	11.6	25	0	-
White	0	-	4.1	49	5.8	37	6.7	40
Whitley	0	-	0	-	1.7	48	8.7	31
State Total	10,561.6	x	6,639.50	x	3,564.30	x	1,185.90	x

Source: IMPLAN economic modeling software

Appendix

Data Sources

The IBRC performed the analysis of the crop and livestock production industries using data from the USDA's 2012 Census of Agriculture. The USDA conducts the Census of Agriculture every five years, and the first of the 2012 data was released in early 2014. Results from the census are available for several different levels of geography, including states, congressional districts and counties.

In cases where a single farm or establishment is the dominant producer in a specific industry in a given geographic area, the USDA will suppress data for that industry in that geographic area so that they don't reveal information about individual producers. Data suppression can be common in smaller industries and in smaller counties. For this analysis, IBRC researchers estimated values for any suppressed data cells. The basic estimation approach was to sum the actual reported values for each Indiana county in a given industry and then find the difference, or residual, between that total and the state total in the same industry. The residual was then allocated proportionally to each suppressed county based on these county's output estimates in the corresponding industry in their IMPLAN models for 2012. In some cases, the USDA would publish county rankings for suppressed industries, which the research team could use to determine if the estimates we generated were reasonable, and to make adjustments if not. The estimated data were then controlled to county and state totals.

For the analysis of processing and manufacturing industries, the research team relied on the output estimates for each industry in each geographic area found in the 2012 IMPLAN models. IMPLAN derives these numbers primarily from U.S. Bureau of Economic Analysis and USDA data, and they cover both wage and salary workers and the self-employed.

Defining Agriculture and Forestry

One challenge in this analysis was deciding which collection of industries properly defines agriculture and forestry. The selection of production industries is straightforward: the research team simply included all industries in sector 11 of the NAICS industry classification scheme with the exception of fishing, hunting and trapping (subsector 114). The NAICS subsectors for production included in this study are crop production, animal production, forestry and logging, and support activities for agriculture and forestry.

The selection of processing and manufacturing industries was trickier. There have been several studies similar to this one conducted in other states. Some have used very broad definitions of agriculture that include nearly all types of food, fabric and wood product manufacturing, while others have attempted to focus their analysis on processing industries that are most closely tied to the farm or forest. The IBRC research team selected the latter approach so as not to inflate the impact estimates with industries that have little direct link to Indiana agriculture.

The research team used the IMPLAN model to help distinguish the industries it considered primary agricultural processing and manufacturing. The IMPLAN model features production functions for each industry, which are akin to a recipe of the production inputs that each industry needs to produce its output. These production functions also include regional purchase coefficients (RPCs), which are estimates of the share of each production input that is supplied by other Indiana firms. The research team used the RPCs to calculate for each industry the share of production inputs that are sourced from Indiana. A large share of the inputs for Indiana's cheese makers, for instance, come from Indiana-based agriculture production, while only a tiny share of the inputs for local tortilla makers come directly from state agriculture production.

The research team settled on a 7 percent threshold, meaning that a processing or manufacturing industry is considered part of agriculture and forestry if at least 7 percent of its production inputs come directly from Hoosier farms or forests. We chose this threshold for two reasons: there was a large break in the values of the ranked list of industries at this point and it began to make intuitive sense to exclude the industries just below this level. There are 35 industries included in this analysis, but the research team determined that it was not feasible to report impact estimates for each of them, so each industry was assigned to one of 12 industry groups. **Table 18** lists each industry included in this analysis, as well as their industry group.

Adjustments to the IMPLAN Model

The research team adjusted the IMPLAN model to eliminate double counting in the estimates of indirect and induced effects. Without adjustments, the economic activity and employment related agricultural industries would

Table 18: List of Industries and Industry Groups

Industry Group	Specific Industry
Soybean and other oilseed farming	Soybean and other oilseed farming
Corn, wheat and other grain farming	Corn, wheat and other grain farming
All other crop farming	Vegetable and melon farming
	Fruit farming
	Greenhouse, nursery, and floriculture production
	Tobacco farming
	All other crop farming
Beef cattle ranching and farming	Cattle ranching and farming
Dairy cattle and milk production	Dairy cattle and milk production
Poultry and egg production	Poultry and egg production
Hog and pig production	Hog and pig production
All other animal production	All other animal production
Forestry and wood product manufacturing	Forest nurseries, forest products, and timber tracts
	Logging
	Sawmills and wood preservation
	Veneer and plywood manufacturing
	Engineered wood member and truss manufacturing
Support activities for agriculture and forestry	Support activities for agriculture and forestry
Grain and soybean processing	Flour milling and malt manufacturing
	Wet corn milling
	Soybean and other oilseed processing
	Fats and oils refining and blending
	Ethanol production
Food manufacturing	Chocolate and confectionery manufacturing from cacao beans
	Confectionery manufacturing from purchased chocolate
	Non-chocolate confectionery manufacturing
	Frozen food manufacturing
	Fruit and vegetable canning, pickling, and drying
	Fluid milk and butter manufacturing
	Cheese manufacturing
	Dry, condensed, and evaporated dairy product manufacturing
	Ice cream and frozen dessert manufacturing
	All other food manufacturing
Animal processing	Animal (except poultry) slaughtering, rendering, and processing
	Poultry processing
	Seafood product preparation and packaging

Source: IBRC, using data from the USDA and the IMPLAN economic modeling software

be double counted when these industries supply production inputs to one another. Researchers followed the procedures outlined by the IMPLAN Group to avoid double counting when conducting multi-industry contribution analysis. These adjustment procedures are online at "Multi-Industry Contribution Analysis" (https://implan.com/index.php?option=com_content&view=article&id=467).

Key Terms

Direct Effects: Refers to the increase in final demand or employment in a county that can be attributed specifically to agriculture or forestry.

Indirect Effects: A measure of the change in dollars or employment caused when agricultural producers increase their purchases of goods and services from suppliers and, in turn, those suppliers purchase more inputs and so on throughout the economy. A corn milling operation, for instance, will buy inputs from a supplier. Those suppliers buy electricity to power their plants, buy material inputs for their products, and employ people to run the equipment. These transactions are the indirect ripple effects associated with the corn milling operation's purchases.

Induced Effects: These reflect the changes—whether in dollars or employment—that result from the household spending of agricultural employees and their suppliers. Induced spending will increase or decrease as output changes along the economic supply chain. For example, as a farm's production and sales increase, the output of its supply chain increases correspondingly. Those output changes also result in changes in household income and spending of suppliers'

employees. Induced effects represent the change in overall economic output and employment resulting from such household spending changes.

Ripple Effects: The total of the indirect effects and induced effects described above.

Total Effects: The total of all economic effects is the size of the economic impact and is the sum of the direct, indirect and induced effects.

Multiplier: The multiplier is the magnitude of the economic response in a particular geographic area associated with a change—either an increase or a decrease—in the direct effects. For example, multiply every dollar of agricultural output by 1.41 to find an estimate of the total contribution of this activity to Indiana's economy. In other words, every dollar of output supports $0.41 in additional economic activity in the state.

Output: The value of an industry's total sales. Output includes both the price of production inputs and the value added of the industry.

Value Added: Also known as gross domestic product (GDP), value added is the difference between an industry's total output and the cost of its production inputs. Value added consists of four components: employee compensation, proprietor income, other property income and indirect business tax.

About IMPLAN Economic Impact Modeling Software

MIG, Inc. (formerly the Minnesota IMPLAN Group) is the company responsible for developing IMPLAN data and software. Using classic input-output analysis, IMPLAN can be used

to measure the economic effects of an economic event, such as a factory closing or a new plant opening, or the size of the economic footprint of an economic entity like a production facility, headquarters or university.

The Economic Theory behind IMPLAN

IMPLAN is built on a mathematical input-output (I-O) model that expresses relationships between sectors of the economy in a chosen geographic location. In expressing the flow of dollars through a regional economy, the input-output model assumes fixed relationships between producers and their suppliers based on demand. It also omits any dollars spent outside of the regional economy—say, by producers who import raw goods from another area or by employees who commute and do their household spending elsewhere.

The idea behind input-output modeling is that the inter-industry relationships within a region largely determine how that economy will respond to economic changes. In an I-O model, the increase in demand for a certain product or service causes a multiplier effect, layers of effect that come in a chain reaction. Increased demand for a product affects the producer of the product, the producer's employees, the producer's suppliers, the supplier's employees, and so on, ultimately generating a total effect in the economy that is greater than the initial change in demand. Say demand for Andersen Windows' wood window products increases. Sales grow, so Andersen has to hire more people, and the company may buy more from local vendors, and those vendors in turn have to hire more people … who in turn buy more groceries. The ratio of that overall effect to the initial change

is called a regional multiplier and can be expressed like this:

(Direct Effect + Indirect Effects + Induced Effects) / (Direct Effect) = Multiplier

Multipliers are industry and region specific. Each industry has a unique output multiplier because each industry has a different pattern of purchases from firms inside and outside of the regional economy. (The output multiplier is in turn used to calculate income and employment multipliers.)

Estimating a multiplier is not the end goal of IMPLAN users. Most wish to estimate other numbers and get the answers to the following questions: How many jobs will this new firm produce? How much will the local economy be affected by this plant closing? What will the effects be of an increase in product demand? Based on those user choices, IMPLAN software constructs "social accounts" to measure the flow of dollars from purchasers to producers within the region. The data

in those social accounts will set up the precise equations needed to finally answer those questions users have—about the impact of a new company, a plant closing or greater product demand—and yield the answers.

IMPLAN constructs its input-output model using aggregated production, employment, and trade data from local, regional, and national sources, such as the U.S. Census Bureau's annual County Business Patterns report, and the U.S. Bureau of Labor Statistics' annual report called Covered Employment and Wages. In addition to gathering enormous amounts of data from government sources, the company also estimates some data where they haven't been reported at the level of detail needed (county-level production data, for instance), or where detail is omitted in government reports to protect the confidentiality of individual companies whose data would be easily recognized due to a sparse population of businesses in the area.

IMPLAN's accessibility and ease of use also make it a target of criticism by some economists, who charge that in the wrong hands, the software—or any input-output model—will produce inflated results at best, and at worst, completely ridiculous projections. Anyone can point and click their way to an outcome without fully understanding the economics in which the tool is grounded and without knowing how to look at data sets with a nuanced eye. The IBRC has two analysts that have attended advanced training in the use of the IMPLAN modeling software. The estimates that the IBRC analysts generate are pressure-tested and triple-checked to ensure that they are accurate and reflect the most trustworthy application of the modeling software. In all instances, the most conservative estimation assumptions and procedures are used to produce the IMPLAN results.